THE HANDBOOK ON PAINTING

The HANDBOOK ON PAINTING

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NATIONAL LEAD COMPANY

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INTRODUCTION

PAINTING is an art in which the printed word is only a beginning and a guide. It requires practice under actual working conditions combined with study and intelligent observation. This is why the trained painter gets results that satisfy and please his customers.

This Handbook on Painting is not designed to convert an amateur into a skilled painter. Rather it is a storehouse of practical paint knowledge and, as such, is a valuable guide and reference work for the painter, the architect, the builder, the engineer, and the building manager, as well as for many other users of paint.

The material on paint formulations is for the professional and those who are accustomed to mix their paints with white lead or red lead paste.

The painting instructions apply in full in these instances as well as for the many — including professional painters — who prefer ready-mixed Dutch Boy products.

Brief descriptions of Dutch Boy ready-mixed paints are included in the following pages.

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Self-Cleaning . . . High-Hiding

BRIGHT WHITE

"Blended" to Stay White!

Here's a really "Bright White" . . . that's blended to *stay* white . . . blended to be *self-cleaning!*

It Goes ON White . . . because of its exceptional hiding power. Gives a clean, sparkling, uniform job . . . the kind that stands right out.

It Goes ON STAYING White . . . because its mild chalking action lets the surface continually renew itself . . . permits rain to wash away dirt.

It Goes On EASY . . . you'll like the way "Bright White" spreads . . . the yardage it gives . . . its smooth leveling.

Dutch Boy BLENDED

Dutch Boy Blended Paints are prepared under continuous laboratory control, in modern plants staffed with experienced paint makers. At the Sayville, L. I., Testing Station, the largest of its kind, Dutch Boy Paints undergo comparative and competitive tests 24-hours a day. Quality oils and pigments are tested before blending by Dutch Boy technicians, and again after formulation.

The steadfast determination by the makers of Dutch Boy Paints to market the best possible products has made these Blended Paints the choice of those-who-know. Master Painters insure their work by using a Dutch Boy Blend—the Paint that proves itself under the time-and-weather-test.

BRIGHT WHITE HOUSE PAINT—the brilliant, durable white that is self-cleaning.

TINTED HOUSE PAINTS—rich, uniform shades. Body colors that retain their beauty and give top protection.

PRIMER-UNDERCOATER — the bedrock for every house painting job. Provides a sturdy foundation that seals and hides.

PAINTS — packaged under the familiar Blue and White label.

SASH AND TRIM COLORS — bright, gay colors for outside trim and accessories. Beauty with a rugged, smooth, and even finish.

PORCH AND FLOOR ENAMEL — blended to retain a high gloss under constant wear and abrasion. Rich looking—long wearing.

WONSOVER—the interior oil flat that is washable. Gives mellow, lasting beauty with one coat.

WALL PRIMER AND SEALER — primes and seals interior surfaces. A quality first coat that insures painting perfection.

METAL PAINT — 030 Metal Primer is based on red lead. An excellent finish coat, too, where color is suitable.

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THE DUTCH BOY TRADEMARK

This famous character is put on our products as a means of identification and as a protection to the buyer. Look for the Dutch Boy trademark as well as the Dutch Boy name. It assures you of high quality products made to fit the needs of the job.

CHAPTER I

Materials for Painting

BEFORE taking up the actual mixing and use of paint, it may be helpful to review briefly the various materials employed in painting. After checking over this information the painter will be able to decide intelligently what is needed to do the best job.

White Lead

White lead is derived from the metallic lead so familiar to everyone. Acetic acid and carbon dioxide gas are used to convert the metallic lead to basic carbonate white lead. This basic carbonate white lead, after a series of grinding and sorting operations, is reduced to an exceedingly fine white powder that, when mixed with the proper liquids, becomes white lead paint—the white lead paint that has been used on American homes since the earliest Colonial days.

Pure white lead paint has an enviable and well-earned reputation for durability. On exteriors its stands up stubbornly against the attacks of weather and wears down slowly by a very gradual chalking of the surface. This leaves an ideal surface for repainting, free from cracking, scaling or other defects that might interfere with the proper application of new paint. The cost of repainting is thereby reduced substantially because burning off or removing old paint, necessary when the old paint has scaled, is expensive.

On interiors white lead is desired for its unique richness and solid beauty of finish. Also, the durability of white lead paint enables it to stand up under frequent washing—a big money saver in such places as hospitals and hotels.

Soft Paste and Heavy Paste Dutch Boy paste white lead is easily made into paint by mixing with oil—either linseed, Lead Mixing or flatting oil—and in some cases thinner and drier before it is ready to brush on the surface.

The paste is sold in two forms — soft and heavy. These terms refer to the paste's consistency. Both forms are ground in oil but the soft paste has thinner added and is more quickly mixed into paint than is heavy paste. The resulting paint, however, is exactly the same in either case.

Dutch Boy paste white lead may be obtained at practically any store stelling paint. It is sold by the pound and comes in 100, 50, 25 and 12½-pound packages.

Dutch Boy Pure White Lead Paint In addition to the paste form, Dutch Boy white lead is also sold as a paint already mixed. It is the same pure white lead mixed with the proper amounts of oil, thinner and drier to make it ready for the brush.

There are two forms — an exterior primer and an outside white — especially designed for use together. They make a combination that even on new wood, produces a durable, high-hiding job in two coats.

Dutch Boy Pure White Lead Paint is for exterior use. While it comes only in white it can be tinted with Dutch Boy colors in oil just as can paint made with paste white lead. It is sold in one and five gallon containers.

Red Lead

Metal surfaces that are subject to rust and corrosion should be protected with red lead paint. Red lead is a paint pigment made from metallic lead through heating processes that oxidize the metal and turn it to the bright orange color so frequently seen on metal structures. Protecting exposed iron and steel with at least two coats of pure red lead paint is a proved and tested method of preventing loss and destruction from rust. Whether it is a costly bridge or a small metal surface around the house, red lead will protect it.

Dutch Boy Red Lead is available in dry, paste, and ready to use form.

050-Metal Primer is most often used by the average painter. This red lead based metal protective paint also serves as a finish coat when the brownish-red color is suitable.

Red lead paints are also available as Liquid Red Lead, Semi Quick-Drying Red Lead, and Quick-Drying Red Lead. For industrial finish coats over any red lead primer, Dutch Boy Metal Finish Paint-Black, can be ordered.

If you require more detailed information on industrial metal painting and corrosion prevention please write or phone one of National Lead Company's branch offices listed on the flyleaf of this booklet.

Oils

Paste white lead is mixed with oil to make paint. For the average exterior job on a wood surface the oil used is pure linseed oil. On exterior masonry surfaces Lead Mixing Oil is recommended and for interior surfaces either Lead Mixing Oil or flatting oil should be used with the white lead.

Linseed oil when mixed with white lead produces a gloss paint for exterior use. The customary flat paint for interior work is made by mixing white lead with either Lead Mixing Oil or flatting oil. If a high gloss is desired on any interior surface, a prepared enamel should be used.

Linseed Oil The linseed oil used with white lead should be of the best quality because poor oil will reduce paint life. Dutch Boy linseed oil is carefully manufactured to insure the necessary high quality and is sold in one and five-gallon containers that are sealed at the factory. Two forms are available — raw and boiled. Both are pure linseed oil but differ somewhat in their characteristics.

Raw Linseed Oil Dutch Boy raw linseed oil is pressed from selected flaxseed, aged and well-settled to clear out the "foots" or jelly-like matter always present in fresh oil. White lead paint mixed with raw linseed oil will dry by itself if given enough time. However, this is seldom practical and therefore drier is added to the paint to speed up drying.

Boiled Linseed Oil To make Dutch Boy boiled linseed oil the raw linseed oil described above is combined, at the factory, with certain drying compounds in the presence of heat. Since boiled oil already contains drying agents, it is not usually necessary to put additional drier in the paint when boiled oil is used.

Lead Mixing Oil Dutch Boy Lead Mixing Oil, when mixed with white lead in the proper proportions, makes flat paint that can be used on exterior as well as interior surfaces.

On surfaces of brick, concrete or stucco the sealing properties of Lead Mixing Oil stop the surface suction and keep

out dampness and moisture. Furthermore, white lead and Lead Mixing Oil has the sturdy wear and beauty of finish characteristic of all white lead paint, whether exposed to weather or used inside.

White lead and Lead Mixing Oil can be used for all coats on plaster and wallboard. It seals the surface and provides a finish with the appealing richness that only a white lead flat possesses. It makes an excellent undercoat for an enamel finish.

Dutch Boy Lead Mixing Oil can be purchased in one and five-gallon cans.

Flatting Oil Dutch Boy flatting oil is a special vehicle intended for mixing with white lead to produce a flat paint that can be stippled to a sharp texture. It also can be mixed with color to make an excellent stain for wood. In addition it is a good glazing liquid and is the proper vehicle to use with white lead and whiting for plastic paint. Dutch Boy flatting oil is packaged in quart, gallon and five-gallon cans.

Drier

Dutch Boy liquid drier was developed especially for use in white lead paint. Its formulation is properly balanced

to bring about efficient drying of the paint and it is always uniform in strength and quality. Comes in half-pints, pints, quarts and gallons.

Colors

The materials used for tinting white lead paint are known as colors in oil. These are various color pigments such as, yellows, greens, browns, reds, blues and blacks, ground in linseed oil to make a paste. This paste is of such a soft buttery consistency that it can be readily stirred into the white lead paint.

Dutch Boy colors are carefully manufactured to produce clean, clear tints. They are also high in tinting strength so that a little goes a long way. And to make sure that they will stir into the paint easily and quickly they are ground exceedingly fine in pure linseed oil and then combined with a small amount of volatile thinner.

Dutch Boy colors can be purchased in half-pints, quarts and gallons. Some of the commonly used colors are also available in tubes holding about two liquid ounces.

Detailed instructions on tinting, together with various color formulas, will be found in Chapter III starting on page 21.

Wall Primer

Walls, of plaster or wallboard, that have excessive suction and have not been previously painted can best be sealed with Dutch Boy wall primer. Not only does this Dutch Boy paint product stop the surface suction and seal fine cracks but it hides the surface as well. It is a sealer and a paint coat combined that provides an ideal foundation for the succeeding coats of white lead flat paint.

It is sold in quarts and gallons as well as in five-gallon cans.

Volatile Thinner

The term volatile thinner refers to the liquid portion of the paint that evaporates before the paint dries. It performs a very useful function in making paint brushable. For example, a combination of one and one half gallons of linseed oil and one hundred pounds of white lead is required for the second coat on new wood to produce a sufficiently hard film. Yet this mixture by itself would be entirely too heavy to brush. When one and one-half gallons of turpentine are added, however, the paint can be easily applied and the resulting paint film, after it has dried, will still contain the proper proportions of white lead pigment and linseed oil.

Turpentine, derived from the pine tree, is one of the most widely used thinners. It is sold by every white lead dealer.

Varnish

Varnishes may be roughly classified in two groups — spirit varnishes, which are solutions of gum or resin in volatile solvents, and oleo-resinous varnishes, which are combinations of resins and drying oils, also in volatile solvents.

A common example of a spirit varnish is shellac. Shellac is widely used for hardwood floors and, when properly applied, is a very satisfactory and durable interior finish. Most stores carry two types, orange and white. The latter, being much lighter, is used for work where the darker orange color might be objectionable. Stores usually carry the 4-pound cut, which means four pounds of shellac gum to a gallon of denatured alcohol.

Oleo-resinous varnishes are made for various purposes. Spar varnish is the term generally applied to those resistant to exterior exposure. However, there are wide variations in quality among varnishes so the best guide is to

select a reputable brand and follow the manufacturer's recommendations as to the product's use.

Clear varnish is not as satisfactory as paint for exterior exposure on surfaces that are not to be frequently refinished. Exposed to weather, varnish soon loses its gloss and compared to white lead paint, its life is short.

Enamels

The characteristics of any enamel finish are smoothness and hardness. The degree of gloss or sheen is dependent upon the type of enamel used and there are several selections available. On interior work, where a gloss finish may be desired, an enamel should always be used rather than a linseed oil paint.

Enamel should be applied over a flat paint such as is produced with white lead and Lead Mixing Oil. The surface should also be well hidden before enamel is applied.

Stains

There are several types of stains classified according to the vehicle or liquid used.

Creosote stain is an effective preservative but once it has been used the surface cannot be painted satisfactorily with a light colored oil paint. Usually the stain will "bleed" through and discolor any paint applied over it. This is true even when the old stain is well weathered.

Oil stain is generally most satisfactory for either exterior or interior use. It is durable and can be painted over if it is desired to change from a stained to a painted surface. For the exterior, use a mixture of three parts Dutch Boy Lead Mixing Oil and one part Dutch Boy linseed oil (raw or boiled) or, if preferred, one part turpentine and two parts Dutch Boy boiled linseed oil.

SHINGLE STAIN COLOR FORMULAS

(quantities of Dutch Boy colors in oil per gallon of liquid)

Gray

12½ lbs. white lead
touch of lampblack

Red

1 pt. venetian red

Deep Red Brown

1 pt. indian red

Permanent Green

¾ pt. chromium oxide

Dark Green

1½ pts. medium chrome green

Seal Brown

1 pt. raw umber

Golden Brown

¼ pt. raw sienna
¾ pt. burnt umber

Deep Brown

1 pt. burnt umber

Straight Dutch Boy flatting oil is an excellent vehicle for an interior woodwork stain. A mixture of one part Dutch Boy raw linseed oil, one part turpentine and one half part Dutch Boy liquid drier may also be used. Color formulas for oil stains will be found on page 40.

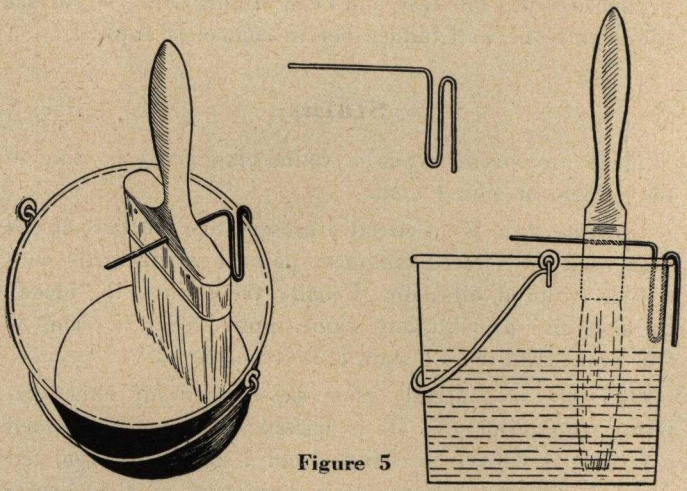


Figure 5

"Brush-keeper" consisting of a 50-pound white lead pail partially filled with kerosene or turpentine. The brush is suspended in the liquid by a heavy wire bent as shown. Bristles should not touch the bottom.

The use of penetrating stains, like water stains or acid stains, is mostly confined to inside woodwork and furniture. In this type of stain, the dye used to reproduce mahogany or walnut will bleed through oil paint. Two thin coats of good shellac applied before any painting is done will usually prevent such trouble.

Brushes

Buy good brushes and then keep them clean. In purchasing a brush, see that it is well bristled and that the bristles are springy. A poorly made brush will neither hold paint nor distribute it evenly. This is the disadvantage of buying a cheap brush with the intention of throwing it away when the job is finished.

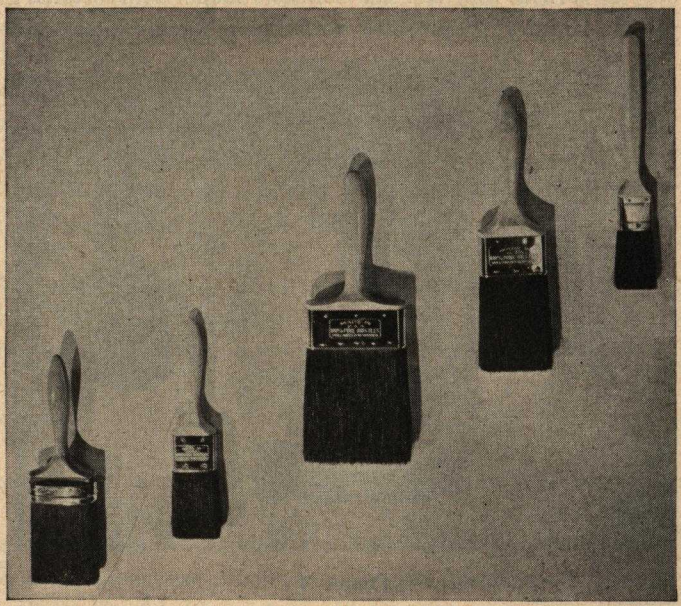


Figure 6

Left to right: 3 inch varnish brush, 2 inch paint brush, 4½ inch paint brush, 3 inch paint brush, 1½ inch sash tool.

The secret of keeping a brush clean is to never let the paint or varnish dry in it. Once this happens it is very difficult, and often impossible, to clean the brush properly.

During the course of a job, every brush out of use for more than an hour or so should be put in a "brush-keeper". A simple type is shown in Figure 5. When the job is finished, clean the brush in turpentine or kerosene.

A brush used in shellac should be thoroughly cleaned with denatured alcohol immediately after use. If the brush has been used in nitro-cellulose lacquer it will be necessary to clean it with lacquer thinner.

If the brush is not going to be used for some time, it is good practice to supplement the above procedure. Wash out the brush with a soap solution made with ordinary yellow laundry soap, rinse with clear warm water, and

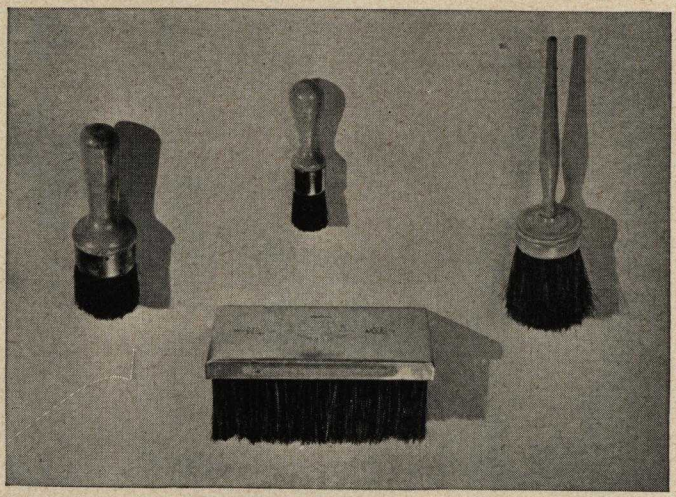


Figure 7

A few special purpose brushes. Upper row, left to right: 2 inch and 1 inch stencil brushes, painter's duster. Lower center: stippling brush.

after the brush has thoroughly dried, wrap the bristles in paper to keep out dust and dirt.

It is also important to select a brush that is the right size for the job. Using a two or three inch brush on large surfaces not only wastes energy but it also prevents proper spread of the paint. On the other hand, the shape of a large brush will be spoiled by using the narrow edge to paint in small surfaces that should be done with a one or two inch brush.

Putty

Putty is a very necessary part of the painter's kit. Practically every surface he is called upon to paint has nail holes, cracks, hammer marks and other defects. These can be filled in with putty and, when painted over, will be completely hidden.

The type or grade of putty is important. For fine work on such surfaces as interior trim nothing but the best white lead putty should ever be used. The cheap types of putty, made with marble dust or with petroleum oils, are not suitable for any job that is to be painted. This kind of putty will always soften and discolor the paint.

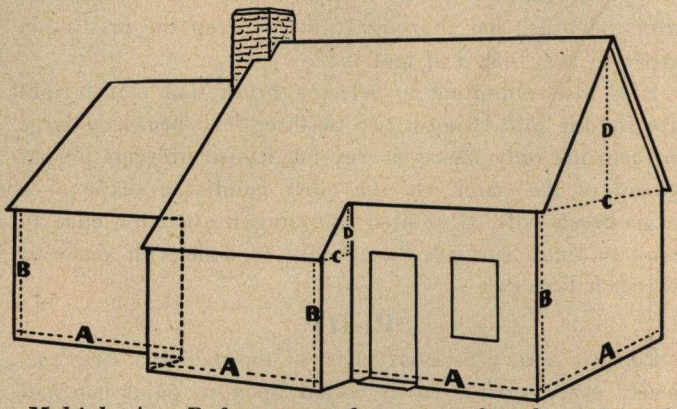
White lead putty can be easily made by using Dutch Boy soft paste white lead and fine bolted whiting. Work the whiting in throughly, kneading the mixture with the hands as soon as it is dry enough to handle. The weight of whiting required will be about one-fourth that of the white lead paste.

Commercial white lead putty usually contains less white lead and more whiting than is given in the above formula.

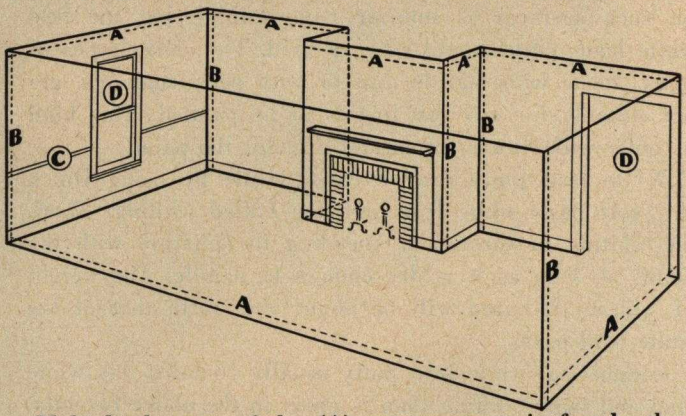
If putty has dried out or hardened in the container it can be softened up by mixing in a small quantity of linseed oil. Never use a petroleum oil for this purpose.

Putty should be kept in an airtight container which should be filled or nearly so. For periods of a month or two putty will stay soft if kept under water.

HOW TO MEASURE SURFACE AREAS



Multiply A x B for square foot area of each section of house. For gables, multiply their widest part in feet (C) by half the height (D). Add together all these square foot figures to obtain the total area to be painted. For trim, figure one gallon of paint for each 300 feet of usual width trim.



Multiply the sum of the (A) measurements in feet by the height of room in feet (B) to get the square foot area of the wall surfaces. For the ceiling multiply length by width. From the total deduct the square foot areas of doors and windows (D). For chair rail (C), baseboard, window frames and similar trim, measure the number of running feet and allow about one pint of paint per hundred feet.

CHAPTER II

Estimating Amount of Paint

TO determine how much paint will be required for a given job it is first necessary to measure the number of square feet in the surface to be painted. The accompanying diagrams show how this can be done for both the exterior of a building and the rooms inside a building.

The conversion of this data into gallons of paint is done by dividing the total area of each type of surface — clapboard, wood shingles, plaster, concrete and so on — by the number of square feet each gallon of paint will cover. The spreading rates will be found in Chapter IV under each surface section. Of course, as will be seen, the spreading rate figure varies for the different surfaces and for the different coats. This is because surfaces differ in the degree of absorption and also in smoothness. For example, plaster absorbs paint and metal does not; the rough surface of a wood shingle takes more paint than the same area on smooth clapboard.

The instructions on these two pages for estimating amounts of paint as well as those in Chapter IV (starting on page 25) relating to preparing the surface and applying the paint, are the same for the paints in the Dutch Boy Blue and White line described in the frontispiece.

The coverage per gallon of Dutch Boy Blended Paints can be found on the labels, or obtained from your Dutch Boy dealer.

FROM PASTE TO PAINT IN TWO SIMPLE STEPS

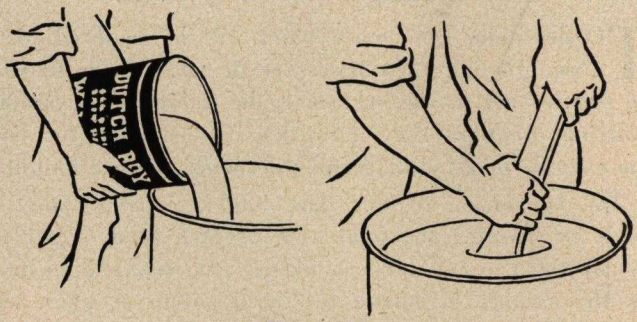


Figure 10

Stir the paste enough to mix in any free liquid on the top, then put as much as needed into the mixing tub.

Reduce to paint by stirring in—a little at a time—the liquid called for by the formula. Add colors if desired.

A THOROUGH STIRRING AND DUTCH BOY WHITE LEAD PAINT IS READY

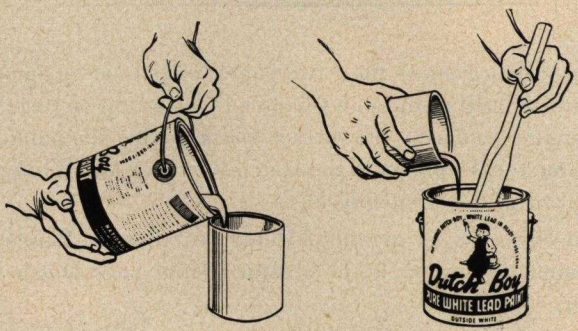


Figure 11

LEFT: Pour off into another container all free liquid on top of paint. RIGHT: Pour back this liquid, a little at a time, stirring it in thoroughly.

CHAPTER III

Mixing and Tinting Paint

LEAD paint is heavy, weighing from sixteen to twenty-six pounds to a gallon, so make sure that the mixing bucket is stout enough. It should hold at least a fourth more than the quantity of paint you expect to make and it should be clean and free of grease. Never use a wooden tub that has held butter or lard because there is no way to remove all of the grease.

A good paddle is also needed. This can be made from three-quarter inch wood of suitable width cut to a convenient length and well smoothed up.

Mixing White Lead Paint If you are making paint from paste white lead all you need to do is shown in Figure 10. Stir in the oil and thinner called for by the formula, a little at a time.

The procedure to follow with Dutch Boy Pure White Lead Paint is illustrated in Figure 11. Use of this method will save time in thoroughly incorporating the ingredients.

Mixing Red Lead Paint Paint can be mixed from paste red lead in the same manner as that given for paste white lead.

Dry red lead can be mixed into paint by using the following procedure. Into one quart of linseed oil, mix twenty pounds of dry red lead, a little at a time. Allow this paste to stand for seventy-two hours, then add another quart of linseed oil and stir thoroughly.

A few hours before you are ready to apply the paint, stir in one quart of a mixture consisting of two-thirds turpentine and one-third drier. The total yield using the above quantities is about one gallon.

Mixing Plastic Paint If the plastic paint is being made with soft paste, first thin the whiting with all the flatting oil (see Formula 22d, page 46)

and mix thoroughly with the white lead. Then add the drier and such tinting colors as may be required.

If heavy paste white lead is used, mix half the flatting oil into the white lead and use the remainder to thin the whiting. Then mix the two batches together thoroughly, adding the drier and colors in oil.

Mix Sufficient Paint Be sure to mix enough paint to do the job, particularly if it is a tinted paint. Left-over pure white lead paint, regardless of its color or its formulation, is always usable for odd jobs.

Unused portions of paste white lead or red lead can be kept soft and free from skins if a one inch layer of water is poured on the surface of the lead and the keg kept tightly covered. The lead should first be scraped down from the sides of the keg. Of course, the water should be removed before the lead is again stirred.

Straining Paint

Straining freshly mixed paint improves its brushing qualities and, in the case of tinted paint, it prevents the possibility of color streaking. With paint that has stood for some time it removes skins and hardened particles.

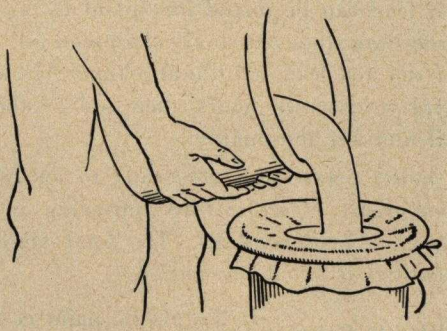


Figure 12

Straining paint through cheesecloth.

A section of fine mesh wire screening makes a handy paint strainer. Or a piece of double cheesecloth will serve equally well. The wire screening can be used again and again if it is rinsed in thinner immediately after use.

Tinting Paint

White lead paint can be colored to a wide range of shades and tints, through the use of colors in oil. A few of the possible colors are suggested in the formulas starting on the next page. These are based on the use of Dutch Boy colors, which are particularly designed for the convenient and efficient tinting of white lead paint.

While it is the best practice to tint before all of the liquid has been added to the paint, Dutch Boy colors are so manufactured that they can be added even when the paint has been completely thinned.

Always add small quantities of color at a time and then stir the color in completely. This not only prevents lumping, but also avoids the addition of too much color. Put in a little color, stir thoroughly, then check with the color that is being matched.

If you get a color too dark it can be lightened only by adding more white paint and this will usually result in entirely too much paint for the job. This is why it is so important to use care as directed above.

The simplest colors to mix are those made with only one color in oil. If two or more are called for, follow the relative proportions given in the formula as you mix in the colors, a little at a time.

Tinting Priming Coat Even when the finish is to be white, the addition of Dutch Boy raw umber to the priming paint improves the final appearance of the job. Use about one-eighth pint (one tube) of color to every five gallons of paint.

FORMULAS FOR EXTERIOR COLORS

(1 tube equals 1/8 pint or 1/4 of a half-pint can)

COLOR	DUTCH BOY COLORS IN OIL	QUANTITY	
		Per 100 Lbs. of White Lead	Per Gallon of Paint
LEMON	C. P. Chrome Yellow—Lemon	1/4 Pt.	1/2 Tube
IVORY	Raw Sienna	1/4 Pt.	1/2 Tube
CREAM	French Ochre	1 Pt.	2 Tubes
LIGHT MAIZE	C. P. Chrome Yellow—Medium	1/4 Pt.	1/2 Tube
LIGHT BUFF	French Ochre C. P. Chrome Yellow—Medium	1/2 Pt. 1/2 Pt.	1 Tube 1 Tube
MEDIUM BUFF	Raw Sienna	1 Qt.	1/2 Pt.
DARK BUFF*	Raw Sienna	1 Gal.	1 Qt.
PEARL GRAY	Lampblack	1 Tube	1/4 Tube
MEDIUM GRAY	Lampblack	1/4 Pt.	1/2 Tube
SLATE GRAY	Lampblack	1/2 Pt.	1 Tube
LIGHT TAN	Burnt Umber	1/4 Pt.	1/2 Tube
PUTTY	Raw Umber	1/2 Pt.	1 Tube
WARM GRAY	Raw Umber	1 Pt.	2 Tubes
MEDIUM TAN	Burnt Umber	1/2 Pt.	1 Tube
CORAL	Burnt Sienna	1/2 Pt.	1 Tube
TERRA COTTA	Burnt Sienna Burnt Umber	1/2 Pt. 1/2 Pt.	1 Tube 1 Tube
LIGHT GREEN	C. P. Chromium Oxide Green	1/2 Pt.	1/8 Pt.
MEDIUM GREEN*	C. P. Chromium Oxide Green	2 Qts.	1 Pt.
OLIVE GREEN	Burnt Umber C. P. Chrome Green—Light	1 Qt. 1 Pt.	1/2 Pt. 1/4 Pt.
SHUTTER BLUE*	Dutch Boy Blue Raw Umber	1 Gal. 1 Qt.	1 Qt. 1/2 Pt.

*Paint colored Dark Buff, Shutter Blue or Medium Green, requires additional vehicle due to the large amount of tinting material used. The quantity of additional vehicle required is:

Dark Buff or Shutter Blue: 3 quarts of linseed oil and 1 pint of turpentine per 100 pounds of white lead *or* 1 1/2 pints of linseed oil per gallon of paint.

Medium Green: 3 pints of linseed oil and 1/2 pint of turpentine per 100 pounds of white lead or 3/4 pint of linseed oil per gallon of paint.

FORMULAS FOR INTERIOR COLORS

(1 liquid ounce equals 1/16 pint or 1/2 tube)

COLOR	DUTCH BOY COLORS IN OIL	Quantity Per 100 Lbs. of White Lead
SHADOW BLUE	Dutch Boy Blue Lampblack	1¾ Pts. 3 Liq. Ozs.
LT. GREEN BLUE	C. P. Chrome Green—Dark C. P. Prussian Blue	¾ Liq. Oz. ½ Liq. Oz.
SILVERY BLUE	Dutch Boy Blue Raw Umber Lampblack	3 Liq. Ozs. 3 Liq. Ozs. 1 Liq. Oz.
FOG GRAY	Raw Umber Lampblack	⅛ Pt. ⅛ Pt.
WARM GRAY	Lampblack Indian Red	1/16 Pt. ½ Liq. Oz.
SAGE	Raw Umber C. P. Chrome Green—Dark	1¼ Pts. ¼ Pt.
NILE GREEN	C. P. Chromium Oxide Green	¾ Pt.
LIGHT GREEN	C. P. Chromium Oxide Green	¼ Pt.
GRAY GREEN	C. P. Chromium Oxide Green Raw Umber	⅛ Pt. ⅛ Pt.
TURQUOISE	C. P. Chrome Green—Dark	⅛ Pt.
BUCKSKIN	Burnt Umber	½ Gal.
WINE	Indian Red Venetian Red	1¾ Pts. ¾ Pt.
ASHES OF ROSE	Venetian Red Burnt Umber	⅜ Pt. ¼ Pt.
LIGHT FAWN	Burnt Umber	¼ Pt.
DUSTY PINK	C. P. Chrome Yellow—Orange Indian Red	1 Liq. Oz. 1 Liq. Oz.
SHELL PINK	Venetian Red	⅛ Pt.
PEACH	C. P. Chrome Yellow—Orange	⅛ Pt.
LIGHT BUFF	Raw Sienna Raw Umber	¼ Pt. 1 Liq. Oz.
LIGHT CANARY	C. P. Chrome Yellow—Lemon C. P. Chrome Green—Dark	¼ Pt. ⅛ Liq. Oz.
LEMON YELLOW	C. P. Chrome Yellow—Lemon	⅛ Pt.
YELLOW IVORY	C. P. Chrome Yellow—Medium	⅛ Pt.
PINK TAN	French Ochre Burnt Sienna	¼ Pt. ¼ Liq. Oz.
CREAM	Raw Sienna Burnt Sienna	⅛ Pt. 1 Liq. Oz.
IVORY	Raw Sienna	⅛ Pt.

Trim Colors

The following formulas produce complete paints suitable for use as trim colors. Because of their color strength they contain no white lead, but are simply Dutch Boy colors in oil reduced to painting consistency.

These paints should be used for the finishing coat only. The regular white lead painting procedure should be followed for the undercoats except that the coat immediately preceding the trim application should be tinted to a medium shade of the finishing color by using a much smaller quantity of the specified color in oil.

For quick set and thorough drying, stir about three ounces of powdered litharge into each gallon of trim paint just before application.

India Red

Yield: 1 gallon

1 qt. venetian red
1 qt. indian red
2½ pts. linseed oil
1 pt. outside spar varnish
½ pt. liquid drier

Medium Green

Yield: 1⅝ gallons

2 qts. C.P. chrome green—med.
3 qts. linseed oil
2½ pts. outside spar varnish
½ pt. liquid drier

Circus Red

Yield: 1 gallon

1 qt. bulletin red
1 qt. indian red
3 pts. linseed oil
1 pt. outside spar varnish
½ pt. liquid drier

Dutch Boy Blue

Yield: 1 gallon

2 qts. Dutch Boy Blue
2 qts. linseed oil
(no varnish or drier)

Bottle Green

Yield: 1⅜ gallons

2 qts. C.P. chrome green—dk.
2½ qts. linseed oil
1 qt. outside spar varnish
½ pt. liquid drier

Chromium Oxide Green

Yield: 1 gallon

2 qts. C.P. chromium oxide green
2½ pts. linseed oil
1 pt. outside spar varnish
½ pt. liquid drier

Bright Green

Yield: 1⅜ gallons

2 qts. C.P. chrome green—lt.
2½ qts. linseed oil
1 qt. outside spar varnish
½ pt. liquid drier

Seal Brown

Yield: 1 gallon

3 pts. bulletin red
¾ pt. lampblack
3 pts. linseed oil
1 pt. outside spar varnish
½ pt. liquid drier

CHAPTER IV

Preparing the Surface and Applying the Paint

PREPARING the surface is a very important part of a painting job. No matter what material is being painted, it should be clean and smooth before a brushful of paint is applied. Dirt, dust, rust, loose paint, grease or any other foreign matter should be removed from the surface. Rough and uneven places should be sandpapered smooth. Detailed instructions for the various surfaces will be found under the specific surface headings.

Paint Removal

When it is necessary to remove old paint from a surface before repainting, there are various ways of doing the job. The choice of method depends on the type of surface as well as the paint previously used. The most common practices are described in the following sections.

Blow Torch The blow torch can be used for removing oil paint from metal or smooth wood surfaces. It should be carefully handled to avoid starting a fire or charring the wood. Keep the flame away from loose joints, knot holes, cracks and underneath clapboards. Never use a torch where the flame might touch glass.

Hold the flame at an angle about an inch from the painted surface and about two inches ahead of the scraper. As the paint bubbles up and softens, it can be scraped off.

Paint Remover Remover is a mixture of solvents that acts as a paint softener. Most removers on the market will work on any type of oil paint, varnish or lacquer.

The paste form is designed to remain moist for a considerable time so that it can be used for large surfaces like house exteriors as an alternative to the blow torch method. Use of the liquid type is generally confined to smaller

areas or interior surfaces. In all cases the recommendations of the manufacturer should be followed as to the use of the remover. Caution should be exercised to avoid fire unless a non-inflammable paint remover is used.

Always wash the surface carefully with benzine or turpentine after using remover to be certain that all residue is removed.

Scraper and Wire Brush The scraper, either power or hand, is frequently used to remove the previous finish on surfaces such as floors. Scraping is also a method of removing rust and scale from metal surfaces, usually in conjunction with a chipping hammer. Brick, stucco, stone or concrete surfaces are usually wire-brushed to remove old coatings. The use of the wire brush, either hand or power driven, is also one of the most thorough ways to remove scale, old paint and accumulated rust from metal surfaces.

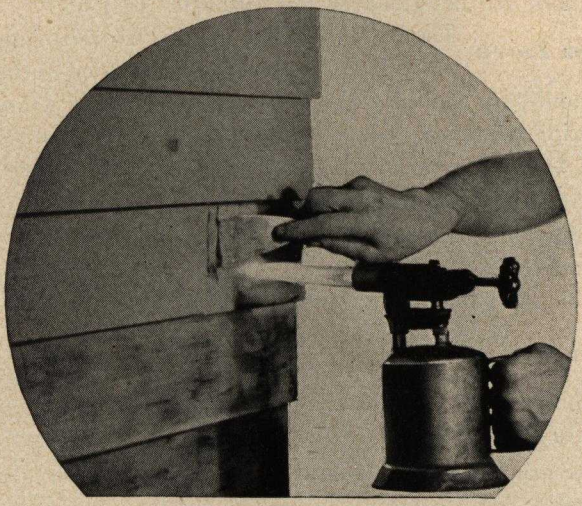


Figure 13

Correct method of holding blow torch.

Sand Blasting This is an efficient method of surface preparation for metal surfaces. It takes off every bit of foreign matter, even mill scale, and leaves the surface in ideal condition for painting. Of course, it requires special equipment and is sometimes difficult to use on certain types of structures.

Washing Surfaces that have been calcimined should always be thoroughly washed to remove the old coating before repainting with an oil paint. The washing solution should be hot for best results.

Casein paints can be softened up with a hot washing powder solution for removal with a scraper or stiff brush although it is a difficult job to get all the paint off. Coating over casein paint may result in peeling trouble later on.

Washing with a soap powder solution or with a prepared paint cleaner is also a common method of cleaning a surface for repainting. This is true of exterior as well as interior surfaces. In these days of oil burners and heavy automobile traffic the exteriors of houses in well built up sections usually accumulate a heavy deposit of greasy soot. Likewise, interior walls, particularly those in kitchens, accumulate dirt and grease.

Paint Application

There are certain general facts about the application of paint that should be remembered no matter what is being painted. For example, no surface should be painted while it is wet or damp. On exterior porous surfaces, not previously painted, several days of clear, dry weather should precede application of the first coat to make sure all moisture is removed.

Painting should not be done under extremely cold, frosty or damp conditions. If outside painting is necessary in winter, choose periods when the weather is clear

and the surface is dry. There is no danger in painting during extremely hot weather unless the air is too humid.

Time between coats should be sufficient to assure complete drying and a firm film. On certain woods, such as cypress, more time between coats is required. A good test for adequate drying is to rub the surface with 1/0 sandpaper. If the sandpaper does not clog up with paint, the surface is ready for the next coat.

Brushing the Paint Brushwork is an extremely important factor in every paint job. It influences not only the final appearance of the job but the durability and life of the paint coating as well.

All paint or other coating materials should be applied so as to insure uniform spread and the proper film thickness. What this proper thickness should be is determined both by the purpose of the paint and its brushing characteristics. Of course, the brushing technique to be used is influenced by all of these factors.

White lead paint for exterior use should be applied freely with a full brush. If a three coat job is being done the paint should be brushed out well to form moderately thin coats, cross-brushed and then finished up with light strokes. On two coat work, the priming coat should be applied more freely with moderate brushing and allowed to level out.

A white lead flat paint should be applied with a minimum of brushwork. The usual method is to lay on the paint quickly with a fairly full brush over a square yard or less of surface. Then with light strokes, cross brush just enough to spread it uniformly. The paint should be practically flowed on the surface, to reduce brushmarks.

Enamel should be applied in a thin film over a well-hidden flat paint surface. Both enamel and varnish set quickly and therefore permit very little brushwork. Just enough brushing to spread the coating evenly and avoid excessive thick-

ness of the film will produce a good job. The enamel or varnish has a natural tendency to smooth out.

Shellac and brushing lacquers set up even more quickly than flat paints and enamels. Consequently they should be applied rapidly with a full brush.

IMPORTANT NOTE

All white lead and linseed oil formulas in this Handbook are based on the use of soft paste lead and raw oil. If heavy paste is used, add 1 quart of turpentine to all formulas. When boiled linseed oil is used, omit drier.

EXTERIOR WOOD

SURFACE PREPARATION:

New wood should be sandpapered to remove all excessive roughness, loose edges, slivers or splinters, and then brushed to remove dust. Old painted surfaces should also be brushed to remove dirt and dust.

Knots and sappy streaks should be given a thin coat of shellac after the first coat of paint is dry. Be sure the shellac extends over the edges of knots or sappy areas.

All loose paint should be removed. If paint is scaling all paint should be removed down to the wood.

All cracks, nail holes and minor surface defects should be filled with white lead putty after the first coat of paint is dry.

PAINT APPLICATION:

Paste White Lead

Repainting Wood: Use Formula 6d as first coat. Follow with Formula 3d as second coat.*

Three Coat Work—Unpainted Wood: Prime with Formula 1d. Follow with Formula 2d as second coat. Use Formula 3d as third coat.*

Two Coat Work—Unpainted Wood: Prime with Formula 8d. Use Formula 3d** for a second coat.*

Back Priming—Unpainted Wood:† If wood is to be back primed, use one coat of Formula 3d.

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* In some instances when a harder film is desired for the finish coat, particularly where excessive dirt discoloration or mildew is present, a reduction of the linseed oil is recommended. At least 2½ gallons of linseed oil should be used. One quart of turpentine should be added if the oil is reduced below 3 gallons.

** If structure is collateral for an F.H.A. loan, this formula should be modified by reducing the linseed oil to 2⅔ gallons and adding 3 pints of turpentine.

† On new construction, it is excellent practice to prime the back of the siding before it is put in place.

Ready Mixed White Lead Paint

Repainting Wood: As first coat, use *Dutch Boy Pure White Lead Exterior Primer* as it comes in the can (or slightly reduced with turpentine not exceeding one pint per gallon of paint) or use Outside White reduced with one pint of turpentine per gallon of paint. Follow with *Dutch Boy Pure White Lead Paint—Outside White* as second coat.†

Two Coat Work—Unpainted Wood: Prime with *Dutch Boy Pure White Lead Exterior Primer.* Use *Dutch Boy Pure White Lead Paint—Outside White* for a second coat.†

Three Coat Work—Unpainted Wood: Prime with *Dutch Boy Pure White Lead Paint—Outside White,* reduced with one pint of linseed oil and two pints of turpentine per gallon of paint. Follow with a second coat of *Dutch Boy Pure White Lead Paint—Outside White,* reduced with one pint of turpentine per gallon of paint. As third coat, use *Dutch Boy Pure White Lead Paint—Outside White* as it comes in the can.†

Back Priming—Unpainted Wood:* If wood is to be back primed, use one coat of *Dutch Boy Pure White Lead Paint* (either Exterior Primer or Outside White).†

† In cool weather, if paint is too thick to brush easily, add a small amount of turpentine, not exceeding one-half pint to a gallon of paint.

* On new construction, it is excellent practice to prime the back of the siding before it is put in place.

MATERIALS	FORMULAS				
	1d	2d	3d	6d	8d
Dutch Boy White Lead.....Lbs.	100	100	100	100	100
Dutch Boy Linseed Oil.....Gals.	4	1½	3¼	2	1½
Pure Turpentine.....Gals.	2	1½	...	2	½
Dutch Boy Liquid Drier.....Pts.	1	1	1	1	1
Dutch Boy Raw Umber.....Pts.	...	...	...	...	¼
Varnish.....Gals.	...	...	...	...	¾
Gallons of Paint Produced.....	9⅜	6⅜	6⅝	7⅜	6⅛
Sq. Ft. Covered Per Gal., 1 Coat.....	600	700	700*	700	500

*600 sq. ft. when used for back priming.

WOOD SHINGLES

SURFACE PREPARATION:

New shingles should be brushed with a stiff brush to remove surface dirt or dust.

Shingles previously painted should be brushed to remove dirt. All loose paint should be removed by scraping. If paint is cracking and scaling badly all of the old paint should be removed.

If previously stained shingles are to be painted and the stain is not known to be an oil stain, a few brushfuls of white lead paint should be applied on a portion of the more protected surface as a test. If no color "bleeds" through this paint in two weeks the entire surface can be safely painted. If there is "bleeding", the shingles should be either restained or painted a color dark enough so that later discoloration will not show.

PAINT APPLICATION:

Paste White Lead

Repainting Wood Shingles: Use Formula 7d as first coat. Follow with Formula 5d (Flat Finish) or Formula 3d (Gloss Finish) as second coat.

Three Coat Work—Unpainted Wood Shingles: Prime with Formula 1d. Follow with Formula 4d as second coat. Use Formula 5d (Flat Finish) or Formula 3d (Gloss Finish) as third coat.

Two Coat Work—Unpainted Wood Shingles: Prime with Formula 21d. Use Formula 5d (Flat Finish) or Formula 3d (Gloss Finish) for a second coat.

Ready Mixed White Lead Paint

Repainting Wood Shingles: As first coat, use *Dutch Boy Pure White Lead Exterior Primer* as it comes in the can (or slightly reduced with turpentine but not to

exceed one pint per gallon of paint) or use Outside White reduced with one pint of turpentine per gallon of paint. Follow with *Dutch Boy Pure White Lead Paint—Outside White* as second coat.*†

Two Coat Work—Unpainted Wood Shingles: Prime with *Dutch Boy Pure White Lead Exterior Primer.* Use *Dutch Boy Pure White Lead Paint—Outside White* as second coat.*†

Three Coat Work—Unpainted Wood Shingles: Prime with *Dutch Boy Pure White Lead Paint—Outside White,* reduced with one pint of linseed oil and two pints of turpentine per gallon of paint. Follow with a second coat of *Dutch Boy Pure White Lead Paint—Outside White,* reduced with one pint of turpentine per gallon of paint. As third coat, use *Dutch Boy Pure White Lead Paint—Outside White* as it comes in the can.*†

* In cool weather, if paint is too thick to brush easily, add a small amount of turpentine, not exceeding one-half pint to a gallon of paint.

† This gives a gloss finish. If flat finish is desired use Formula 5d for this coat.

MATERIALS	FORMULAS					
	1d	3d	4d	5d	7d	21d
Dutch Boy White Lead..... Lbs.	100	100	100	100	100	100
Dutch Boy Linseed Oil..... Gals.	4	3¼	2	...	2½	2
Pure Turpentine..... Gals.	2	...	1	...	1¼	...
Dutch Boy Liquid Drier..... Pts.	1	1	1	...	1	...
Dutch Boy Lead Mixing Oil..... Gals.	...	...	...	3 to 4	...	2
Gallons of Paint Produced.....	9⅜	6⅝	6⅜	6¼ to 7¼	7⅛	7¼
Sq. Ft. Covered Per Gal., 1 Coat.....	200	600	400	600	500	200

ASBESTOS CEMENT SHINGLES

SURFACE PREPARATION:

Surface should be brushed with a stiff brush to remove all loose dust and dirt.

Surface should be completely dry. Painting should be done on previously unpainted shingles only after and during a spell of clear, dry weather.

All loose paint should be removed. If the paint is cracking and scaling all of the paint should be removed.

PAINT APPLICATION:

Repainting Asbestos Cement Shingles: Use Formula 13d as first coat. Follow with Formula 14d (Flat Finish) or Formula 3d (Gloss Finish) as second coat.*

Unpainted Asbestos Cement Shingles: Prime with Formula 13d. Follow with Formula 14d as second coat. Use Formula 14d (Flat Finish) or Formula 3d (Gloss Finish)* as third coat.

* If desired, Dutch Boy Pure White Lead Paint—Outside White may be used instead of Formula 3d.

MATERIALS	FORMULAS		
	3d	13d	14d
Dutch Boy White Lead.....Lbs.	100	100	100
Dutch Boy Linseed Oil.....Gals.	3¼	2½	...
Dutch Boy Liquid Drier.....Pts.	1	...	...
Dutch Boy Lead Mixing Oil.....Gals.	...	2½	4 to 5
Gallons of Paint Produced.....	6⅝	8¼	7¼ to 8¼
Sq. Ft. Covered Per Gal., 1 Coat.....	600	400*	600†

*300 sq. ft. when used to prime unpainted shingles.
†500 sq. ft. when used as second coat on unpainted shingles.

BRICK, STUCCO, CONCRETE AND STONE

SURFACE PREPARATION:

Surfaces not previously painted should be brushed to remove all dirt and loose mortar.

If surface has not been exposed to air at least six months it should be washed with a solution made in the proportion of 2 pounds of zinc sulphate to a gallon of water and then allowed to dry thoroughly before painting.

Surfaces previously painted with an oil paint should be brushed to remove all loose paint. All cracks or holes should be repaired with Portland cement or caulking material.

CAUTION: Stucco of magnesite composition should never be painted with oil paint. A chemical reaction will occur between the oil and certain salts in the magnesite resulting in failure of the paint.

PAINT APPLICATION:

Repainting Brick, Stucco, Concrete* and *Stone:
When an oil paint has been previously used,* all repaired surfaces should first be spot primed with Formula 13d and allowed to dry. Then use Formula 13d as first coat for entire surface. Follow with Formula 11d (Flat Finish) or Formula 3d (Gloss Finish)† as second coat.

ALTERNATE: (*If Dutch Boy Lead Mixing Oil is not available*) Spot prime all repaired surfaces with Formula 4d and allow to dry. Then use Formula 4d as first coat for entire surface. Follow with Formula 23d (Flat Finish) or Formula 3d (Gloss Finish) †as second coat.

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* If the previous paint was a water paint, clean off all the old coating and treat as an unpainted surface.

† If desired, Dutch Boy Pure White Lead Paint—Outside White may be used instead of Formula 3d.

SEE FORMULA TABLES ON PAGE 37.

Unpainted Common Brick: Prime with Formula 9d. Follow with Formula 10d as second coat. Use Formula 11d (Flat Finish) or Formula 3d (Gloss Finish)* as third coat.

ALTERNATE FLAT FINISH COAT: (If Dutch Boy Lead Mixing Oil is not available) Use Formula 23d.

Unpainted Face or De-aired Brick: Prime with Formula 12d. Follow with Formula 7d as second coat. Use Formula 11d (Flat Finish) or Formula 3d (Gloss Finish)* as third coat.

ALTERNATE FLAT FINISH COAT: (If Dutch Boy Lead Mixing Oil is not available) Use Formula 23d.

Unpainted Stucco, Concrete* and *Stone: Prime with Formula 13d. Follow with Formula 5d as second coat. Use Formula 11d (Flat Finish) or Formula 3d (Gloss Finish)* as third coat.

ALTERNATE: (If Dutch Boy Lead Mixing Oil is not available) Prime with Formula 24d. Follow with Formula 4d as second coat. Use Formula 23d (Flat (Finish) or Formula 3d (Gloss Finish) as third coat.*

* If desired, Dutch Boy Pure White Lead Paint—Outside White may be used instead of Formula 3d.

MATERIALS	FORMULAS					
	3d	4d	5d	7d	9d	10d
Dutch Boy White Lead.....Lbs.	100	100	100	100	100	100
Dutch Boy Linseed Oil.....Gals.	3¼	2	...	2½	5	3
Pure Turpentine.....Gals.	...	1	...	1¼	¾	1
Dutch Boy Liquid Drier.....Pts.	1	1	...	1	1	1
Dutch Boy Lead Mixing Oil.....Gals.	...	...	3 to 4	...	...	...
Gallons of Paint Produced.....	6⅝	6⅜	6¼ to 7¼	7⅛	9⅛	7⅜
Sq. Ft. Covered Per Gal., 1 Coat.....	500	400	400	400	200	400

MATERIALS	FORMULAS				
	11d	12d	13d	23d	24d
Dutch Boy White Lead.....Lbs.	100	100	100	100	100
Dutch Boy Linseed Oil.....Gals.	...	4	2½	...	3
Pure Turpentine.....Gals.	...	¾	...	1½	1¼
Dutch Boy Liquid Drier.....Pts.	...	1	...	½	1
Dutch Boy Lead Mixing Oil..Gals.	4	...	2½	...	...
Varnish.....Gals.	...	...	...	¾	2
Gallons of Paint Produced.....	7¼	8⅛	8¼	5½	9⅝
Sq. Ft. Covered Per Gal., 1 Coat.....	500	300	400*	500	200

*200 sq. ft. when used to prime unpainted stucco, concrete or stone.

INTERIOR WOODWORK

SURFACE PREPARATION:

New woodwork should be sandpapered smooth and dusted before painting.

Painted or varnished woodwork, if the old finish is in good condition, should be cleaned. All grease or dirt should be washed off with soap powder or paint cleaner, and any wax removed with benzine. The woodwork should then be rubbed down with 2/0 or 3/0 sandpaper. If the surface is cracked, checked or scaled remove the old coating down to the wood with paint remover.

If woodwork was previously stained mahogany or walnut color it will be necessary to apply two thin coats of pure rosin-free shellac before painting to avoid the possibility of the dye in the stain from bleeding through the paint.

PAINT APPLICATION:

Repainting: Use Formula 5d as the first coat. Follow with Formula 5d (Flat Finish) or Formula 17d (Semi-Gloss Finish) or prepared enamel as second coat.

ALTERNATE: (If Dutch Boy Lead Mixing Oil is not available) Use Formula 23d as the first coat. Follow with Formula 25d (Flat Finish) or Formula 26d (Semi-Gloss Finish) or prepared enamel as second coat.

Three-Coat Work—New Wood: Prime with Formula 18d or 11d. Follow with Formula 5d as second coat. Use Formula 5d (Flat Finish) or Formula 17d (Semi-Gloss Finish) or prepared enamel as third coat.

ALTERNATE: (If Dutch Boy Lead Mixing Oil is not available) Prime with Formula 18d or 24d. Follow with Formula 23d as second coat. Use Formula 25d (Flat Finish) or Formula 26d (Semi-Gloss Finish) or prepared enamel as third coat.

Two-Coat Work—New Wood: Prime with Formula 5d. Use Formula 5d (Flat Finish) or Formula 17d (Semi-Gloss Finish) for a second coat. NOTE: The three coat specification should always be followed if a prepared enamel is to be used.

MATERIALS	FORMULAS							
	5d	11d	17d	18d	23d	24d	25d	26d
Dutch Boy White Lead....Lbs.	100	100	50	100	100	100	100	100
Dutch Boy Linseed Oil.....Gals.	...	...	...	3	...	3	...	...
Pure Turpentine.....Gals.	...	...	...	2	1½	1¼	1¾	1½
Dutch Boy Liquid Drier....Pts.	...	...	...	1	½	1	½	¼
Dutch Boy Lead Mixing Oil.Gals.	3 to 4	4	1½	...	...	...	...	...
Dutch Boy Wall Primer....Gals.	...	...	3	...	...	...	...	...
Varnish.....Gals.	...	...	...	...	¾	2	⅛	1½
Gallons of Paint Produced.....	6¼ to 7¼	7¼	6⅛	8⅜	5½	9⅝	5⅛	6¼
Sq. Ft. Covered Per Gal., 1 Coat	800*	600	800	600	800†	600	800	800

*600 sq. ft. when used to prime new wood in two-coat painting; 700 sq. ft. when used as second coat in three-coat painting.

†700 sq. ft. when used as second coat in three-coat painting.

Special Finishes for Interior Woodwork

Antique First paint the woodwork according to the previous flat finish specifications. The final coat should be tinted to the ground color desired. Usually ivory is preferred although other colors such as green may also be antiqued. After the final coat of paint is completely dry, brush on a glaze made by tinting a quart of Dutch Boy flatting oil with one tube (two liquid ounces) of Dutch Boy burnt umber. Keep the glaze well stirred in the container or the color will settle out. Before the glaze sets up wipe it off the raised parts of the trim with cheesecloth.

Silver Gray This is only suitable for open grained woods such as oak and chestnut that have not previously been painted. Use a filler made as follows: Mix three parts by weight of Dutch Boy white lead and two parts by weight of fine silica. Reduce to a thin paint with equal parts turpentine and coach japan. Apply this paint and before it sets, rub the woodwork across the grain with stiff felt to force the filler into the grain of the wood. Remove all excess filler. When the filler has hardened, finish with oil, wax, shellac or varnish as desired.

Staining Open grained woods, such as oak and chestnut, should be filled with a good wood filler before staining. Then proceed as on other woods by first applying a coat of Dutch Boy flatting oil or a liquid made of equal parts of raw linseed oil and turpentine. Then while the surface is still wet apply the stain, which may be either straight Dutch Boy flatting oil or a mixture of linseed oil, turpentine and drier (See page 12) tinted to one of the colors below. Allow it to remain five or ten minutes and wipe off the surplus with a dry cloth. After the stain is thoroughly dry, apply shellac and finish by waxing or varnishing.

COLOR FORMULAS FOR INTERIOR WOODWORK STAIN
(quantities of Dutch Boy colors in oil per gallon of liquid)

Mahogany
1 pt. vandyke brown
½ pt. rose lake

Light Oak
1 pt. raw sienna
¼ pt. raw umber

Dark Oak
1 pt. raw sienna
½ pt. burnt umber
touch of burnt sienna

Cherry
1½ pts. burnt sienna

Old Maple
½ pt. raw sienna
½ pt. burnt sienna
½ pt. raw umber

Walnut
1½ pts. vandyke brown
or
1 pt. burnt sienna
¼ pt. dropblack

Graining This is a method of imitating various woods by simulating their grain and color. First, paint the woodwork in the usual manner. The paint should be tinted to a ground color suitable for the type of wood to be imitated. When the paint is dry apply the proper graining color*, thinned with Dutch Boy flatting oil or a mixture of two parts Dutch Boy raw linseed oil, three parts turpentine and one part Dutch Boy liquid drier. While still wet, the graining color should be figured with graining tools to imitate the grain of the wood being reproduced. The work may be finished by waxing or varnishing.

GROUND COLORS FOR GRAINING

(quantities of Dutch Boy colors in oil per 100 pounds of white lead)

Cherry

½ gal. venetian red
½ gal. french ochre

Mahogany

1 gal. venetian red
½ gal. french ochre

Dark Oak

½ gal. french ochre

Light Oak

1 qt. french ochre
½ pt. C.P. chrome yellow—medium

Old Maple

⅛ pt. C.P. chrome yellow—orange

* See color formulas on opposite page.

Volume Mixi

DUTCH BOY SOFT

REPAIN

OUTSIDE WOOD
(INCLUDING WOOD SHINGLES)

FIRST COAT

FINISH COAT

DRIER: Add ¼ pint to each gallon of paint, if raw linseed oil is used. Boiled linseed oil requires no drier.

*For flat finish on shingles use Lead Mixing Oil instead of linseed oil in this coat. No drier required.

BRICK, STUC
AND

FIRST COAT

NO DRIER

*For gloss finish use linsee Oil in this coat. Use drie

NEW

USE PROPER PRIMING COAT BELOW FOLLOWED

OUTSIDE WOOD
(INCLUDING WOOD SHINGLES)

3 Parts WHITE LEAD
4 Parts LINSEED OIL *
2 Parts TURPENTINE

INTERIOR WOOD

3 Parts WHITE LEAD
3 Parts LINSEED OIL *
2 Parts TURPENTINE

BR

3 Parts W
5 Parts LI
1 Part TU

* Add ¼ pint drier to each gallon of paint if raw linseed oil is used. Boiled oi

ng Directions

PASTE WHITE LEAD

T WORK

CO, CONCRETE STONE

FINISH COAT

REQUIRED

d oil instead of Lead Mixing
as per note opposite.

INTERIOR PLASTER, WALL BOARD AND WOODWORK

FIRST AND FINISH COATS (FLAT FINISH)

NO DRIER REQUIRED

WORK

BY TWO COATS MIXED AS PER DIAGRAMS ABOVE

ICK

HITE LEAD
NSEED OIL *
RPENTINE

requires no drier.

STUCCO, CONCRETE AND STONE

4 Parts WHITE LEAD
3 Parts LINSEED OIL
3 Parts LEAD MIXING OIL

INTERIOR PLASTER AND WALLBOARD

DUTCH BOY WALL PRIMER
(OR)
3 Parts WHITE LEAD
4 Parts LEAD MIXING OIL

INTERIOR PLASTER (ALSO WALLBOARD AND FABRIC)

SURFACE PREPARATION:

Be sure surface is clean and smooth, that there is no remaining grit, loose plaster, grease or surface irregularities. Care should be taken never to break or scratch the plaster.

Fill all cracks and holes with patching plaster. Large cracks should be opened up to the lath (see Figure 14), soaked with water and properly filled.

If surface has been previously calcimined, it should be washed with warm water until all the calcimine is removed.

Walls previously papered should have all paper taken off and then be thoroughly washed to remove all traces of paste.

NOTE: Painting over wallpaper is not good practice. Should the painted paper later require removal it would be a difficult job to do so without damage to the plaster.

If necessary to paint over wallpaper, be sure there is only one layer on the wall and that this layer is in good condition. Paint will not hide texture or surface irregularities. Follow unpainted plaster painting directions.

PAINT APPLICATION:

Repainting: Use Formula 5d for the first coat. Follow with a second coat according to the finish desired.

FLAT	STIPPLE	SHARP STIPPLE
Formula 5d	Formula 15d	Formula 16d
SEMI-GLOSS	PLASTIC	ENAMEL
Formula 17d	Formula 22d	Prepared Enamel

ALTERNATE: (If Dutch Boy Lead Mixing Oil is not available) Use Formula 23d as the first coat. Follow with Formula 25d (Flat Finish) or Formula 26d (Semi-Gloss Finish) or prepared enamel as second coat.

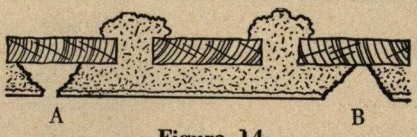

Figure 14

A—Correct method of cutting out plaster cracks with the widest part of "V" next to the lath. B—incorrect method.

Three Coat Work—Unpainted Plaster, Wallboard or Fabric: Prime with *Dutch Boy Wall Primer* or Formula 14d. Follow with Formula 5d as second coat. Use a third coat according to the finish desired.

FLAT	STIPPLE	SHARP STIPPLE
Formula 5d	Formula 15d	Formula 16d
SEMI-GLOSS	PLASTIC	ENAMEL
Formula 17d	Formula 22d	Prepared Enamel

ALTERNATE: (*If Dutch Boy Lead Mixing Oil is not available*) Prime with Formula 18d or 24d. Follow with Formula 23d as second coat. Use Formula 25d (Flat Finish) or Formula 26d (Semi-Gloss Finish) or prepared enamel as third coat.

Two Coat Work—Unpainted Plaster, Wallboard or Fabric: Prime with *Dutch Boy Wall Primer* or Formula No. 5d. Use a second coat according to the finish desired. Both coats should be tinted to approximately the same color.

FLAT	STIPPLE	SHARP STIPPLE
Formula 5d	Formula 15d	Formula 16d
SEMI-GLOSS	PLASTIC	ENAMEL
Formula 17d	Formula 22d	Prepared Enamel

SEE FORMULA TABLES ON NEXT PAGE.

MATERIALS	FORMULAS				
	5d	14d	15d	16d	17d
Dutch Boy White Lead.....Lbs.	100	100	100	100	50
Dutch Boy Lead Mixing Oil...Gals.	3 to 4	4 to 5	2	...	1½
Dutch Boy Flatting Oil.....Gals.	...	...	...	1½	...
Dutch Boy Wall Primer.....Gals.	...	...	...	...	3
Gallons of Paint Produced.....	6¼ to 7¼	7¼ to 8¼	5¼	4¾	6⅛
Sq. Ft. Covered Per Gallon, 1 Coat...	800*	600	600	600	600

*600 sq. ft. when used to prime unpainted surfaces.

MATERIALS	FORMULAS				
	22d	23d	24d	25d	26d
Dutch Boy White Lead.....Lbs.	100	100	100	100	100
Dutch Boy Linseed Oil.....Gals.	...	...	3	...	...
Pure Turpentine.....Gals.	...	1½	1¼	1¾	1½
Dutch Boy Liquid Drier.....Pts.	¼	½	1	½	¼
Dutch Boy Flatting Oil.....Gals.	1¼	...	...	...	...
Varnish.....Gals.	...	¾	2	⅛	1½
Dry Whiting.....Lbs.	22	...	...	...	...
Gallons of Paint Produced.....	5½	5½	9⅝	5⅛	6¼
Sq. Ft. Covered Per Gallon, 1 Coat...	160	800	600	800	800

DUTCH BOY PORCH AND FLOOR ENAMEL

. . . is designed for maximum durability and gloss retention, with a tough surface that stands hard wear and abrasion. It is available in eight colors — quart and gallon cans. For those who prefer a floor paint ready mixed in colors, this Dutch Boy enamel is unequaled.

WOOD FLOORS (EXTERIOR AND INTERIOR)

SURFACE PREPARATION:

New floors should be sandpapered and dusted to remove all dirt and grit.

Floors previously painted should be sandpapered and dusted, if paint is in good condition. Otherwise, remove all the old paint before painting.

PAINT APPLICATION:

Repainting Wood Floors: Touch up bare spots with Formula 19d. Follow with Formula 19d as first coat. Use Formula 20d as second coat.

Unpainted Wood Floors: Prime with Formula 18d. Follow with Formula 19d as second coat. Use Formula 20d as third coat.

Underside Porch Floors: Prime tongue and groove edges of boards and underside of new porch floors with Formula 3d or *Dutch Boy Pure White Lead Paint* (either Exterior Primer or Outside White).

MATERIALS	FORMULAS			
	3d	18d	19d	20d
Dutch Boy White Lead.....Lbs.	100	100	100	100
Dutch Boy Linseed Oil.....Gals.	3¼	3	½	¾
Pure Turpentine.....Gals.	...	2	2¼	¾
Dutch Boy Liquid Drier.....Pts.	1	1	½	½
Varnish.....Gals.	...	...	...	1¼
Gallons of Paint Produced.....	6⅝	8⅜	6	6
Sq. Ft. Covered Per Gallon, 1 Coat. .	600	600	700	700

CONCRETE FLOORS (EXTERIOR AND INTERIOR)

SURFACE PREPARATION:

Unpainted concrete that has not aged for at least six months should be treated with a solution made in the proportion of two pounds of zinc sulphate to a gallon of water and then allowed to dry thoroughly before painting.

All cracks and surface defects should be filled with white lead putty.

Surfaces previously painted with an oil paint should be wire-brushed to remove all loose paint. If old paint is in good condition, the surface should be thoroughly cleaned. All grease or dirt should be washed off with soap powder or paint cleaner and any wax removed with benzine.

PAINT APPLICATION:

Repainting Concrete Floors: Touch up worn spots with Formula 19d. Follow with Formula 19d as first coat. Use a high grade floor enamel as second coat.

Unpainted Concrete Floors: Prime with Formula 13d. Follow with Formula 19d as second coat. Use a high grade floor enamel as third coat.

MATERIALS	FORMULAS	
	13d	19d
Dutch Boy White Lead.....Lbs.	100	100
Dutch Boy Linseed Oil.....Gals.	2½	½
Pure Turpentine.....Gals.	...	2¼
Dutch Boy Liquid Drier.....Pts.	...	½
Dutch Boy Lead Mixing Oil.....Gals.	2½	...
Gallons of Paint Produced.....	8¼	6
Sq. Ft. Covered Per Gallon, 1 Coat.....	200	400

EXTERIOR METAL

SURFACE PREPARATION:

All metal should be thoroughly cleaned before painting to remove rust, grease or dirt.

Surfaces where solder flux has been used should be cleaned with benzine.

Galvanized surfaces, never before painted, should be weather exposed for at least six months before painting.

On repaint work all rusted spots or areas where paint is loose should be thoroughly wirebrushed.

PAINT APPLICATION:

Paste Red Lead

Repainting Metal: Spot prime all bare metal with Formula A-1. Follow with Formula 28d as first coat. Use Formula A-5 (Black) or a white lead paint of the desired color as second coat.

Unpainted Metal: Prime with Formula A-1. Follow with Formula 28d as second coat. Use Formula A-5 (Black) or a white lead paint of the desired color as third coat.

Ready-Mixed Red Lead Paint

Repainting Metal: Spot prime all bare metal with *Dutch Boy 050-Metal Primer* or *Liquid Red Lead* or *Quick-Drying Red Lead* or *Dutch Boy Semi Quick-Drying Red Lead.* Follow with *Liquid Red Lead** or *Quick-Drying Red Lead** or *Semi Quick-Drying Red Lead** as first coat. Use a *Dutch Boy ready-mixed paint* or a white lead paint of the desired color as second coat.

* Enough Dutch Boy lampblack may be added to tint the paint a light brown. The difference in color aids in avoiding any skipped places.

SEE FORMULA TABLE ON NEXT PAGE.

Unpainted Metal: Prime with *Dutch Boy 050-Metal Primer* or *Liquid Red Lead* or *Quick-Drying Red Lead* or *Semi Quick-Drying Red Lead.* Follow with *Dutch Boy 050-Metal Primer* or *Liquid Red Lead** or *Quick-Drying Red Lead** or *Semi-Quick-Drying Red Lead** as second coat and a *Dutch Boy ready-mixed paint* or a white lead paint of the desired color as third coat.

WHITE OR VERY LIGHT FINISH

Repainting Metal: Spot prime all bare metal with Formula A-1 or *Dutch Boy 050-Metal Primer* or *Liquid Red Lead* or *Quick-Drying Red Lead* or *Semi Quick-Drying Red Lead.* Follow with Formula 2d as first coat. Use Formula 3d or *Dutch Boy Pure White Lead Paint — Outside White* as second coat.

Unpainted Metal: Prime with Formula A-1 or *Dutch Boy 050-Metal Primer* or *Liquid Red Lead* or *Quick-Drying Red Lead* or *Semi Quick-Drying Red Lead.* Follow with Formula 2d as second coat and Formula 3d or *Dutch Boy Pure White Lead Paint — Outside White* as third coat.

* Enough Dutch Boy lampblack may be added to tint the paint a light brown. The color difference aids in avoiding skipped places.

MATERIALS	FORMULAS				
	2d	3d	A-1	28d	A-5
Dutch Boy White Lead.....Lbs.	100	100	...	...	...
Dutch Boy Red Lead.....Lbs.	...	...	100	100	25
Dutch Boy Linseed Oil.....Gals.	1½	3¼	1⅞	1⅞	3¼
Pure Turpentine.....Pts.	12	...	1½	1½	3
Dutch Boy Liquid Drier.....Pts.	1	1	1½	1½	3
Dutch Boy Lampblack.....Gals.	...	...	...	¾ Pt.	1¾
Dutch Boy C.P. Prussian Blue.Pts.	...	...	...	...	5
Gallons of Paint Produced.....	6⅜	6⅝	4½	4⅝	7
Sq. Ft. Covered Per Gal., 1 Coat....	700	700	600	700*	700

*600 sq. ft. when used as the second coat over unpainted metal.

METAL—UNDERWATER EXPOSURE

SURFACE PREPARATION:

All metal should be allowed to dry thoroughly and then be cleaned to remove rust, grease, dirt or loose paint. On new work the surface should be sandblasted, if possible.

PAINT APPLICATION:

Repainting Metal for Underwater Exposure: Spot prime all bare metal with *Dutch Boy Quick-Drying Red Lead.* Follow with three coats* of *Dutch Boy Quick-Drying Red Lead.*†

Unpainted Metal for Underwater Exposure: Use four coats of *Dutch Boy Quick-Drying Red Lead.*†

* If a special color is desired for the finish coat, replace the final red lead coat with a tinted paint, properly mixed for underwater use.

† Enough Dutch Boy lampblack may be added to alternate coats to tint the paint a light brown. The difference in color aids in avoiding any skipped places.

METAL PAINTS

Dutch Boy Metal Protective Paints are formulated for specific metal painting problems. For detailed information on corrosion prevention and the use of these products, see the Dutch Boy Metal Painting Handbook.

Paste Red Lead. Red Lead ground in pure linseed oil. Comes in 25, 50 and 100 lb. containers.

050—Metal Primer. Easily applied. Dries to handle within 8 hours. Packed in 1 and 5 gallon cans, and 20 gallon drums.

051—Semi Quick-Drying Red Lead. Particularly useful when faster drying schedules are necessary. Available in quart, gallon, 5 gallon and 20 gallon containers.

052—Quick-Drying Red Lead. This rust inhibitive paint can be recoated in 4 hours. Available in 1 and 5 gallon cans and 20 gallon drums.

055—Liquid Red Lead. Possesses wetting properties which increase adhesion to partially corroded surfaces. Dries to a semi-gloss which is readily recoated. Packed in 1 and 5 gallon cans and 20 gallon drums.

INTERIOR METAL

SURFACE PREPARATION:

All metal should be thoroughly cleaned before painting to remove rust, grease, dirt or loose paint.

PAINT APPLICATION:

Repainting Interior Metal: Spot prime all bare metal with Formula A-1 or *Dutch Boy 050-Metal Primer* or *Liquid Red Lead* or *Quick-Drying Red Lead* or *Semi Quick-Drying Red Lead* or Formula 4d. Follow with Formula 20d as first. Use a second coat according to the finish desired.

FLAT	STIPPLE	SHARP STIPPLE
Formula 5d	Formula 15d	Formula 16d
SEMI-GLOSS	PLASTIC	ENAMEL
Formula 17d	Formula 22d	Prepared Enamel

ALTERNATE FINISH COATS: (If Dutch Boy Lead Mixing Oil is not available) Use Formula 25d (Flat Finish) or Formula 26d (Semi-Gloss Finish) or prepared enamel as finish coat.

Unpainted Interior Metal: Prime with Formula A-1 or *Dutch Boy 050-Metal Primer* or *Liquid Red Lead* or *Quick-Drying Red Lead* or *Semi Quick-Drying Red Lead* or Formula 4d. Follow with Formula 20d as second coat. Use a third coat according to the finish desired.

FLAT	STIPPLE	SHARP STIPPLE
Formula 5d	Formula 15d	Formula 16d
SEMI-GLOSS	PLASTIC	ENAMEL
Formula 17d	Formula 22d	Prepared Enamel

ALTERNATE FINISH COATS: See above.

MATERIALS	FORMULAS				
	4d	5d	15d	16d	17d
Dutch Boy White Lead.....Lbs.	100	100	100	100	50
Dutch Boy Linseed Oil.....Gals.	2	...	...	...	...
Pure Turpentine.....Gals.	1	...	...	...	...
Dutch Boy Liquid Drier.....Pts.	1	...	...	...	...
Dutch Boy Lead Mixing Oil..Gals.	...	3 to 4	2	...	1½
Dutch Boy Flatting Oil.....Gals.	...	...	...	1½	...
Dutch Boy Wall Primer.....Gals.	...	...	...	...	3
Gallons of Paint Produced	6⅜	6¼ to 7¼	5¼	4¾	6⅛
Sq. Ft. Covered Per Gallon, 1 Coat ..	600	800	600	600	800

MATERIALS	FORMULAS				
	20d	22d	25d	26d	A-1
Dutch Boy White Lead.....Lbs.	100	100	100	100	...
Dutch Boy Red Lead.....Lbs.	...	...	...	...	100
Dutch Boy Linseed Oil.....Gals.	¾	...	...	...	1⅞
Pure Turpentine.....Gals.	¾	...	1¾	1½	1½Pts.
Dutch Boy Liquid Drier.....Pts.	½	¼	½	¼	1½
Dutch Boy Flatting Oil.....Gals.	...	1¼	...	...	...
Varnish.....Gals.	1¼	...	⅛	1½	...
Dry Whiting.....Lbs.	...	22	...	...	...
Gallons of Paint Produced.....	6	5½	5⅛	6¼	4½
Sq. Ft. Covered Per Gallon, 1 Coat ..	800	160	800	800	600

CHAPTER V

Interior Decorative Effects

THERE are many decorative treatments possible with paint, other than plain walls, and in this chapter some of the more popular ones are described and illustrated. All are produced over a ground of white lead flat paint with equipment that is both inexpensive and easy to obtain.

Equipment Required A stippling brush is useful for either a plain painted wall or for a blended paint effect. This is a rectangular brush with long bristles which when tamped against the wall pick up the wet paint in tiny points giving the surface a uniform texture without brush marks or other irregularities.

Masking tape is very useful for establishing a clean-cut line where more than one color is employed. The surface should be completely dry and hard before the tape is applied or the paint may be picked up when the tape is removed. Masking tape can be obtained in various widths.

Stencils are another handy device for the decorator. They can be cut from stencil paper or purchased ready to use from the paint store or stencil manufacturer. For their use a stencil brush is required. This is a round brush with

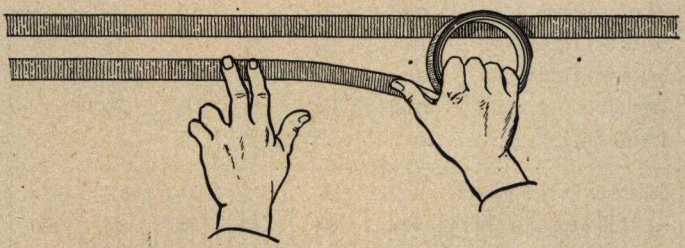

Figure 15

Using masking tape to produce banding line. To insure accuracy mark points on the surface about eighteen inches apart and affix tape from one point to the other.

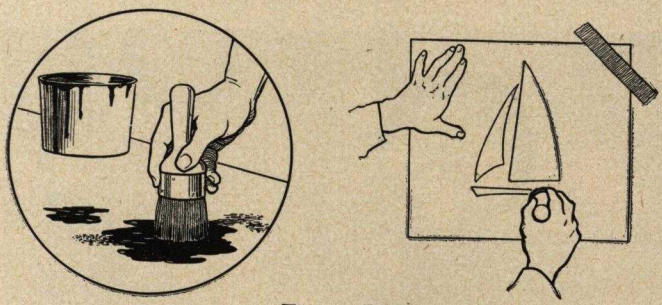

Figure 16

Hold stencil brush upright as shown. Work in paint by pouring a little on a flat surface. Note use of masking tape to hold one corner of stencil.

short thick bristles and is used in the manner shown. A one inch brush is about right for the average size stencil.

Other effects involve only the use of such inexpensive materials as newspaper, cheesecloth or a sponge.

Stencil Effects

The simplest stencil effect is one where a different colored paint is brushed through the stencil openings onto the dry paint beneath. Removing the stencil leaves the design in the contrasting color as shown in Figure 17. Of course this is only one of an unlimited number of designs.

Figure 17

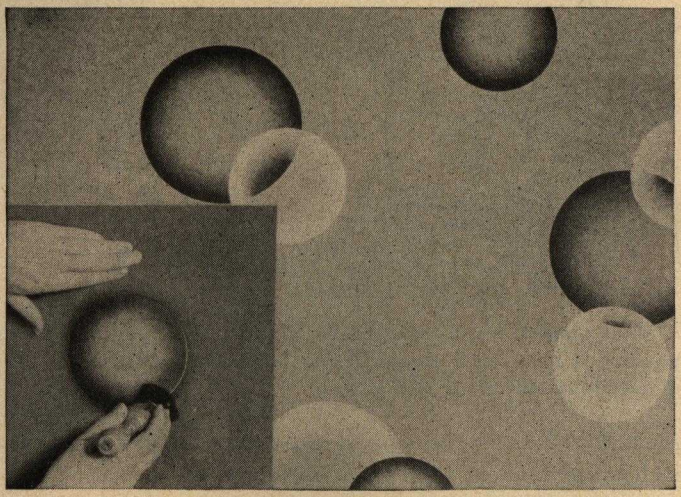

Figure 18

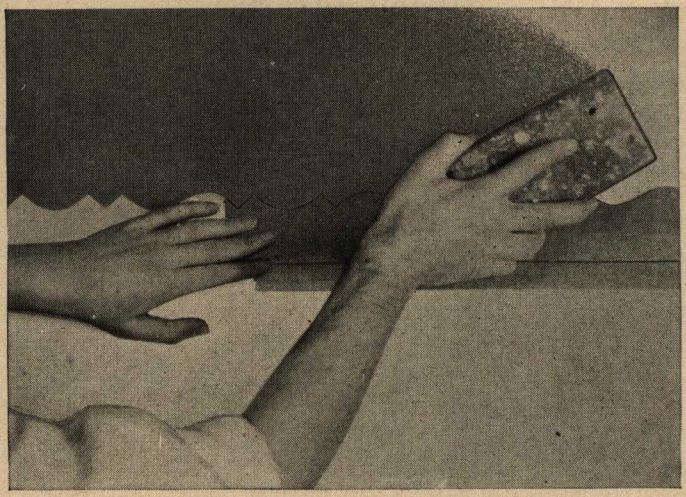

Figure 19

Figure 20

Another way to use a stencil is shown in Figure 18. Here the stencil is just a circular opening and instead of painting over the entire opening the paint is applied only around the edge and then blended off toward the center by tamping it with the stencil brush.

Two further adaptations are shown in which the design is cut on the edge of the stencil. A simple border is shown in Figure 19 and a more elaborate scene in Figure 20. When paint of contrasting color is applied and the stencil is removed the design is outlined as shown.

Crumpled Roll Effect

This finish is done over a dry ground but while the top coat of paint is still wet. A wad of crumpled newspaper about a foot long is rolled down over the wet paint. As this is done the paper picks up some of the wet color and exposes irregular areas of the dry paint beneath, giving a two-tone effect in an interesting design. Only about a third

Figure 21

of the undercoat shows through, so the dominant color is always determined by the top coat. The colors used should be different enough to show some contrast.

The technique is easy. Press the paper firmly against the wall as you roll it over and over. Use a fresh piece for each time down the wall and overlap slightly so the strips do not show. Also run the strips at a slight angle down the wall to avoid regularity. Any skipped places can be patted with the crumpled paper before the paint has set.

Sponge Mottle Finish

This effect is put on with wet paint over a wall that has been painted and allowed to dry. An ordinary coarse washing sponge is the tool used. Cut the sponge in half so a flat surface is exposed and use this side for applying the paint. A little of the colored paint to be applied with the sponge should be spread out on a board or other flat surface

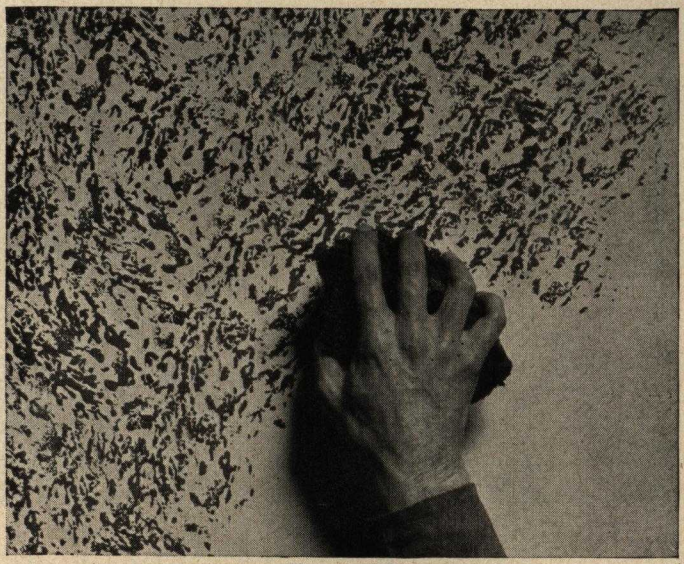

Figure 22

and the sponge tamped into it. Dampen the sponge with water first, so that it will not become clogged with paint.

Pat the wall lightly with the paint covered surface of the sponge changing the position of the hand from side to side to avoid repeating the same design in just the same pattern. Go over the entire surface this way.

Glazed and Blended Finishes

Dutch Boy flatting oil, tinted with color in oil, makes a good glazing liquid for either walls or woodwork.

Antique In creating an antique effect, the colors in oil are mixed with flatting oil before application. Use just enough color to get the depth desired. Apply this over the surface and then wipe lightly with a ball of cheesecloth. Some of the glaze will remain in depressed spots to give the antique appearance. This practice may be followed either on a wall surface or on woodwork.

Figure 23

Tiffany To produce a tiffany blend the painted wall, after it is dry, is brushed with a coat of clear Dutch Boy flatting oil in strips of about twenty-five square feet. While this oil is still wet the colors to be blended are spotted on as shown in Figure 23. The colors in oil should be mixed with enough flatting oil to make a thin paste.

Use a wad of cheesecloth in a circular or figure 8 motion to blend the colors on the wet wall. Then wipe out highlights here and there and finish by patting the entire surface lightly with cheesecloth to get a smoothly blended effect.

The siennas and umbers, either burnt or raw, are the most frequently used glazing colors. Touches of other colors are also used sometimes to vary the effect. The ground coat of paint should be a light ivory or cream color for best results.

Paint Blend A blended effect similar in general appearance to the tiffany can be done without the use of glaze. Instead, regular white lead flat paint, tinted to the various colors desired, is spotted on the wall while the

finish coat of paint is still wet. Then the color spots are blended together with a stippling brush. In this way the blending can be done without waiting for the ground to dry.

Plastic Finishes

A plastic paint is a heavy-bodied paint that will produce a coat with a thickness and a consistency that can be textured in various designs. White lead plastic paint has a proportion of whiting added to produce the required stiffness. (See Formula 22d, page 46.)

After this paint is on the wall it can be textured with a great variety of tools. For example, a sponge, a whiskbroom, a flat board and a stiff brush are only a few of the objects that can be used. Figure 24 shows a typical design.

A textured wall can frequently be improved in appearance by glazing, which adds color and accentuates the design.

Figure 24

A texture produced by lifting the wet plastic paint with the flat side of a paint brush.

Starching

This is not a decorative effect, strictly speaking, but it is a method used by some decorators to secure a completely flat, uniform surface free from "shiners" or glossy spots.

The starch mixture is made as follows: Dissolve one pound of gloss laundry starch (not corn starch) in a little lukewarm water, add one ounce of powdered alum and then pour boiling water into the solution until it thickens to jelly and becomes clear. Reduce to brushing consistency with cold water. Apply with a clean four inch wall brush and immediately stipple. If the wall has been glazed, add about two ounces of white soap flakes to the above starch mixture.

Cleaning Painted Walls

One of the important advantages of pure white lead flat paint is its durability. Surfaces painted with it can be freshened up, without apparent injury to the finish, by washing with a good prepared paint cleaner or a soap solution. This is true not only of plain color walls, but also those treated with any one of the decorative effects.

Washing a dirty surface should always proceed from the bottom up. If the operation is started at the top, the cleaning solution runs down the wall and leaves streaks on the uncleaned portion that are difficult to remove. Brush or sponge off a workable section with the cleaning solution, then rinse with clear water. Do the same with the adjoining area and so on across the bottom of the section. Then repeat the process on the upper sections.

CHAPTER VI

Avoiding Painting Troubles

GOOD paint doesn't fail prematurely unless it is improperly mixed, carelessly applied or asked to do the impossible.

To avoid all painting troubles due to improper paint mixtures, follow the directions and formulas in this handbook or use the Dutch Boy ready to use paints according to directions on the containers.

This handbook also gives certain instructions on paint application that should be followed. However, printed words cannot replace the skill that comes with experience and, as in all trades, the man who knows his job will do it better than the beginner. But even the beginner will find that white lead paint is so nearly foolproof that serious troubles can be avoided by using it according to recommendations.

Excessive Moisture One of the impossible things that paint is sometimes asked to do is to stay on a surface where excessive moisture is present behind the paint film. This condition will loosen the paint's adhesion to the surface and is responsible for practically all the cases of paint peeling.

Construction Defects Obviously, no surface should be painted while it is wet but very frequently moisture trouble occurs after the painting is done on a dry, or at least an apparently dry, surface. The difficulty in these cases can usually be traced to definite defects in construction. To cite a few typical examples:

1—Lack of flashing or the incorrect use of it.

2—Poor fitting of siding against door and window casings or corner boards.

3—Improper installation of moisture barrier in sidewall insulation.

4—Siding or porch skirting touching the soil.

5—Unventilated air space between soil and floor.

6—Hollow porch columns without ventilating holes at top and bottom.

Of course, if any of these or other similar faults in construction are present, they must be corrected to prevent paint failure.

Another way of expecting the impossible is to paint a surface that has previously cracked and scaled, without first removing all of the old paint. The odds are high that any of the old paint still remaining will continue to crack and scale and take the new paint off with it.

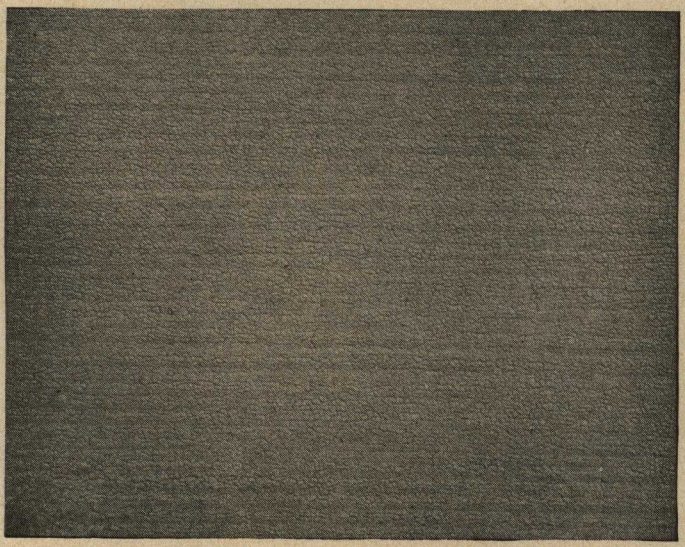

Figure 25

CHECKING

Breaks in the top coat only which form a small irregular pattern. Slight checking does not detract from the durability and protective value of the paint.

CAUSE:

Usually too soft an undercoat.

HOW TO AVOID:

Allow plenty of drying time between coats; make sure the paint being applied is formulated to produce a film that is no harder than that of the undercoat.

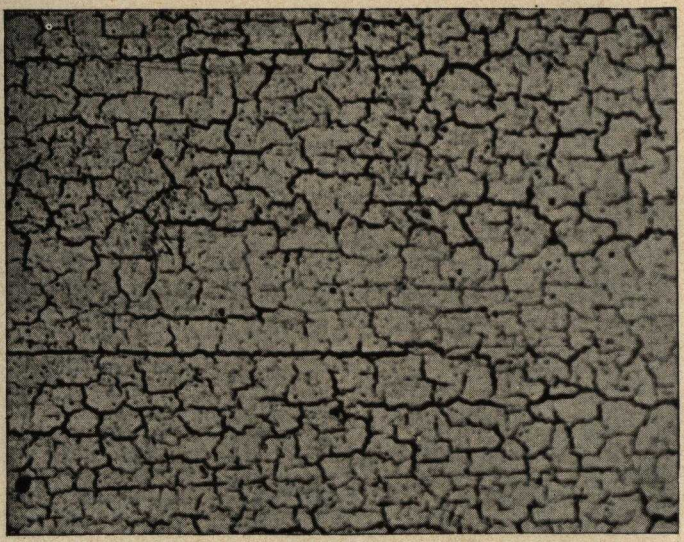

Figure 26

ALLIGATORING

Wide and deep breaks in the painted surface.

CAUSE:

The application of a hard type of paint film over a film that is much softer. The soft undercoat may be the result of improper formulation, the use of a soft drying pigment like yellow ochre, or the use of large amounts of straight color pigments.

HOW TO AVOID:

Do not apply a paint that will form a hard film over a paint film that is much softer. Allow ample time between coats for drying and hardening. Before repainting a surface that has alligatored extensively, remove all of the old paint, down to the wood.

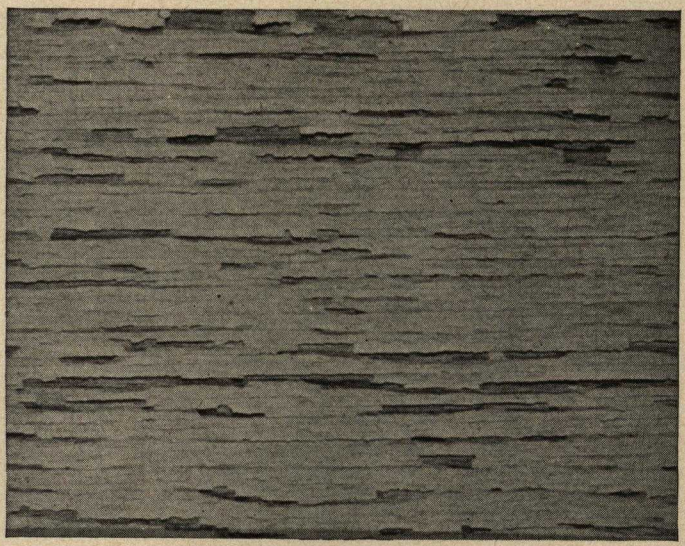

Figure 27

CRACKING AND SCALING

Two defects closely related since scaling is a later state of cracking. Cracking is a fissure in the paint film extending clear down to the wood. The paint curls up at the edges of the cracks, pulls away from the surface and scales off.

CAUSE:

Paint that has become hard and brittle due to its age or composition so that it can no longer follow the movement of the wood surface underneath.

HOW TO AVOID:

Use properly formulated white lead paint. It remains elastic and retains its adhesion.

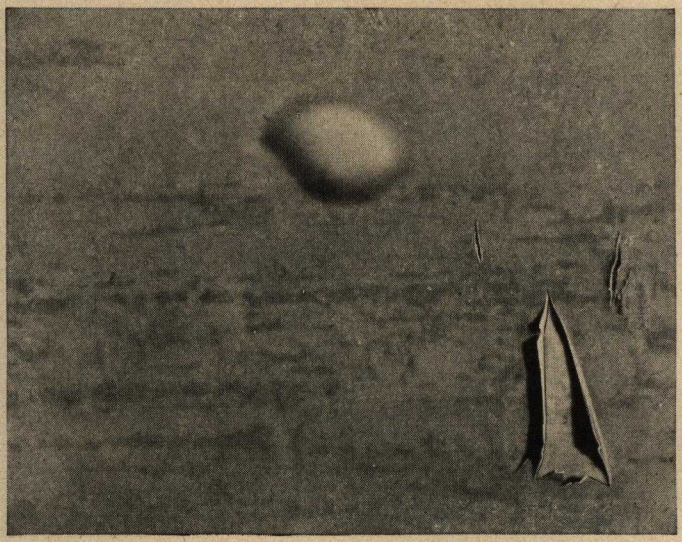

Figure 28

BLISTERING

Blisters in the dry paint film that may eventually break.

CAUSE:

Usually excessive moisture, either present in the wood at the time of painting, or gaining access to it at some later time. Heat of the sun, or heat from inside the house, moves the moisture through the wood to the underside of the paint film and loosens the paint's adhesion. If vapor pressure is then built up, blisters are formed.

HOW TO AVOID:

Make sure that there are no construction faults (see page 63) and that the material to be painted is dry. Before repainting a blistered surface, remove all the old paint.

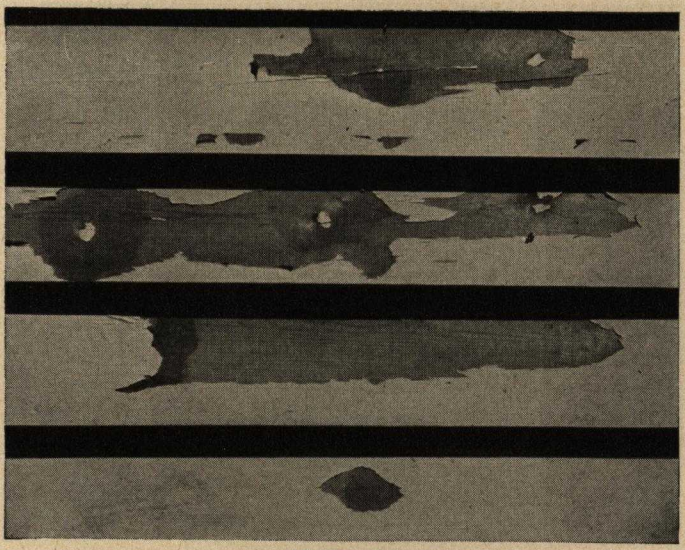

Figure 29

PEELING

Paint coming off the surface in strips or large areas.

CAUSE:

It may be the use of the wrong type of paint or poor application on an improperly prepared surface. Frequently, it is excessive moisture in the material that is painted that moves through to the underside of the paint film so that the paint's adhesion is broken and the paint peels off.

HOW TO AVOID:

Make sure that the material to be painted is clean and in proper condition to receive paint; that it is thoroughly dry, not only on the surface but throughout. If there are any construction faults (see page 63) the proper repairs should be made.

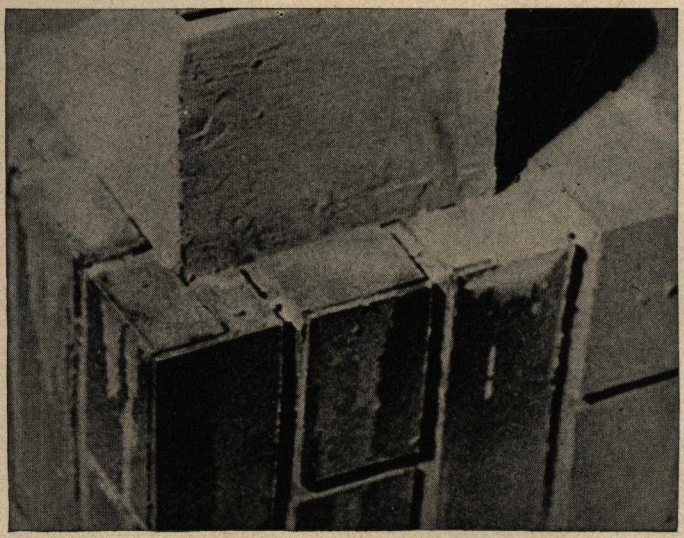

Figure 30

WASHING

Excessive removal of the paint or paint pigment by rain and moisture, usually evidenced by streaks near the lower edge of clapboards or at the foot of columns.

CAUSE:

The use of improper ingredients in the paint, such as water soluble materials or materials that become water soluble through chemical reaction.

HOW TO AVOID:

Use properly formulated white lead paint which does not contain or form water soluble materials.

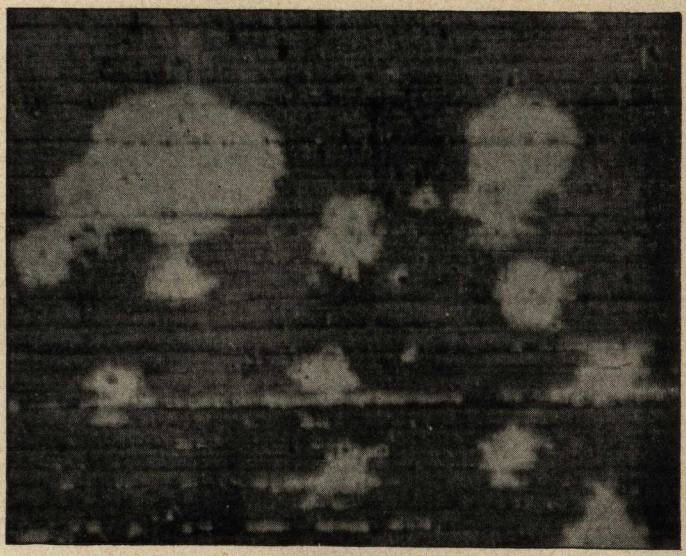

Figure 31

SPOTTING

Loss of gloss, fading or early chalking in small areas over the painted surface. It usually shows up more prominently with dark tints and colors.

CAUSE:

Uneven absorption of oil from the finishing coat by the surface underneath.

HOW TO AVOID:

This defect will not occur when the finish coat is applied over a properly sealed surface.

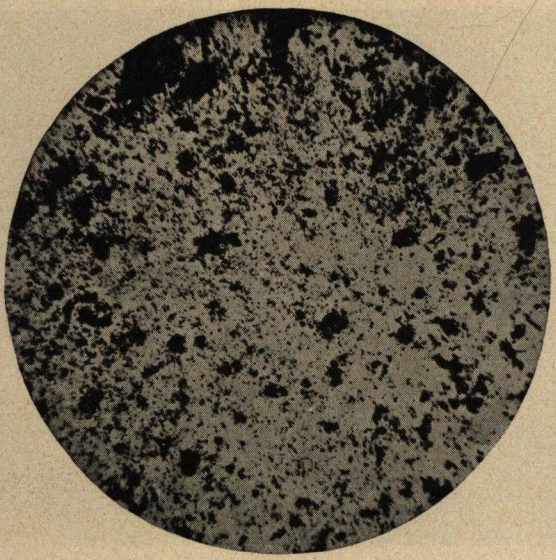

Figure 32

DIRT DISCOLORATION

Every painted surface collects dirt as it ages. However, there is such a thing as excessive discoloration while the paint job is still fairly new. Do not confuse with mildew (see page 78).

CAUSE:

The use of a finishing coat that contains too much linseed oil or oil of poor quality.

HOW TO AVOID:

Be sure the final coat is properly formulated. In localities where the atmosphere is particularly dirty use less linseed oil in the final coat*.

* Formula 3d should be changed to contain 2½ gals. of linseed oil and 1 quart of turpentine.

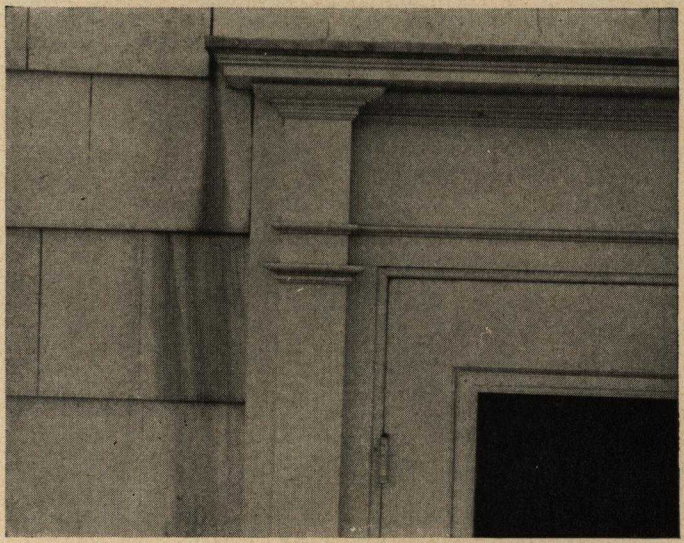

Figure 33

DISCOLORATION FROM METAL

Discolored streaks running down over the painted surface from unpainted metal parts of the house.

CAUSE:

Formation of metal salts washed down over the surface of the paint film by rain. When the paint contains certain white pigments, the salts actually stain the film so that it is impossible to remove the discoloration.

HOW TO AVOID:

Pure white lead paint is not permanently stained by these salts and any normal discoloration that is deposited on the surface of a white lead film from this source can be washed away.

Figure 34

WRINKLING

Irregular ridges in the top film of paint. Sometimes so small they give the effect of flatting.

CAUSE:

A paint film that dries so slowly underneath that it causes the already dry surface to wrinkle. Usually an excessively thick coat of paint will do this, particularly if there is too much drier.

HOW TO AVOID:

Wrinkling usually can be avoided if the paint is correctly formulated and properly brushed. When bad wrinkling has occurred, the easiest way to get a first-class repaint job may be to remove the old paint. If there is only slight wrinkling, rub down the ridges with sandpaper and repaint.

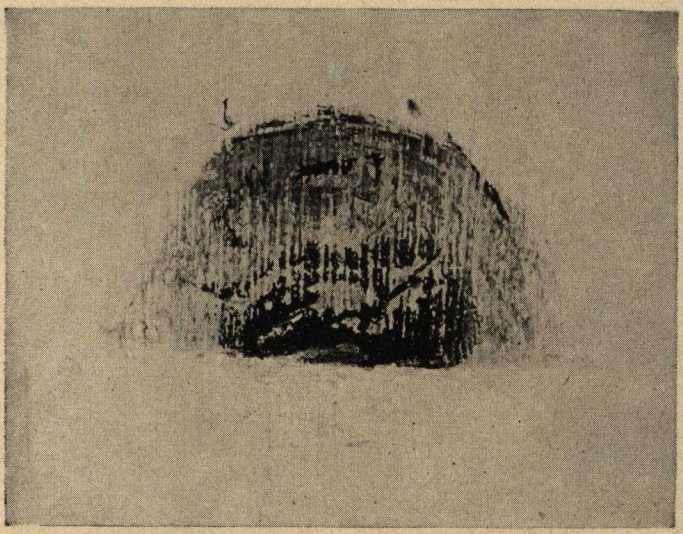

Figure 35

BLEEDING OVER KNOTS AND SAPPY STREAKS

Discoloration on the surface of the paint appearing over knots or sappy streaks.

CAUSE:

Resin in the wood that exudes through the paint film.

HOW TO AVOID:

Coat areas with thin coat of good shellac after the first coat of paint has been applied. Be sure to overlap the knots or sap streaks with the shellac.

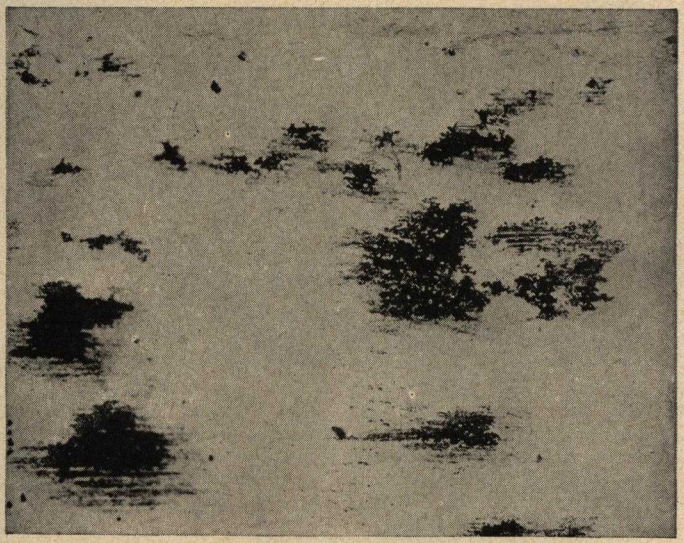

Figure 36

DISCOLORATION OVER CEDAR OR REDWOOD

Dark spots appearing through the paint film.

CAUSE:

Soluble colored substances in the wood that come to the surface of the paint.

HOW TO AVOID:

This trouble, usually confined to exteriors, can be avoided by making sure that the lumber is of good grade and well seasoned and also that there is no moisture trouble due to construction defects (see page 63).

Figure 37

RUNNING AND SAGGING

CAUSE:

The application of too much paint. If the paint is high in oil content, the tendency is to apply it too freely, and consequently the paint will run or sag.

HOW TO AVOID:

A paint of correct formulation, brushed on a suitable surface in a workmanlike manner, never will show either of these defects.

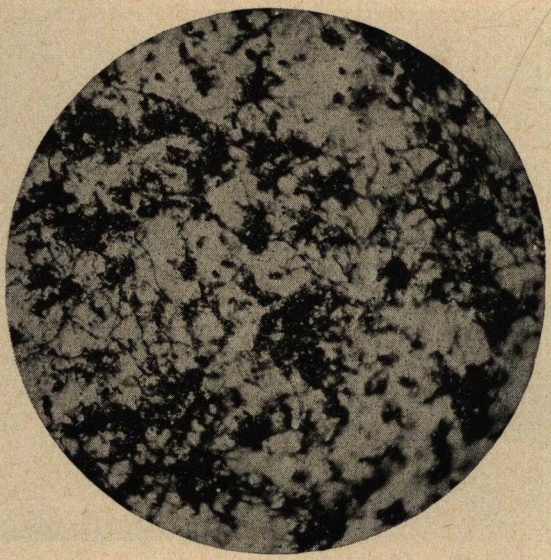

Figure 38

MILDEW

A dark discoloration usually found on the shaded areas.

CAUSE:

A dark-colored fungus that grows on soft paint films under the combined condition of moisture, warmth and shade.

HOW TO AVOID:

Where mildewing has previously occurred, remove all fungus possible by washing surface thoroughly. Use a solution of paint cleaning compound or a mixture of one-quarter pound of washing soda to a gallon of water. Rinse well and paint according to repainting directions* on pages

* The linseed oil in Formula 3d should be reduced to 2½ gallons and one quart of turpentine added to the formula.

30 and 31. The addition of mercuric chloride (corrosive sublimate) to the paint (both coats) aids. Use about an ounce to every gallon of white lead paint. It may be added to the paint in either of two ways. First method: Dissolve the mercuric chloride in alcohol by placing a container with a small amount of alcohol in a hot water bath (but not over an open flame). Second method: Make a very thin paste of the mercuric chloride and a small amount of linseed oil and turpentine. Add gradually to the paint, stirring it in thoroughly.

CAUTION:

Mercuric chloride is a deadly poison. Use with great care.

FLATTING (LOSS OF GLOSS)

Noticeable flatting of the surface within a week or two of completing the job. Not necessarily uniform over the entire surface. May affect one side of the house or sometimes only one board in an entire area. It is purely a defect in appearance and does not impair the life or protective value of the paint.

CAUSE:

Usually incorrect formulation of the paint or to the presence of moisture in some form (frost, fog, rain, etc.) during the drying of the paint. Undercoats that are too soft from insufficient time for drying may also destroy the gloss of the finish coat.

HOW TO AVOID:

Be sure of the formulation of the paint and its application under proper conditions.

CRAWLING

Failure of the paint to wet the surface which causes it to gather up globules instead of covering the surface.

CAUSE:

The application of paint over an unsuitable surface such as one with a hard gloss. The tendency of a paint to crawl is greatly increased by low temperature.

HOW TO AVOID:

If necessary to apply paint over a hard, glossy surface, first sandpaper or otherwise provide the surface with "tooth".

FADING

Uniform lightening of color over an area of a painted surface.

CAUSE:

Incorrect formulation that causes the paint to chalk rapidly and give the effect of fading or the use of color pigments that are not stable.

HOW TO AVOID:

White lead has unusually good tint retention, and when properly formulated and correctly applied, will not be subject to fading.

APPENDIX

A—Equivalent Volumes of Dutch Boy White-Lead

(Approximate)

WEIGHT		VOLUME
100	pounds	3¼ gallons
50	pounds	1⅝ gallons
25	pounds	6½ pints
12½	pounds	3¼ pints
5	pounds	1¼ pints
1	pound	1 gill

B—Composition of White-Lead Paint

Per cent compositions, by weight and by volume, of the white-lead paints used on exterior wood.

FORMULA	MATERIAL	% BY WEIGHT	% BY VOLUME
No. 6d (First Coat, Re-painting)	White-lead	68.0	22.2
	Linseed Oil	18.7	44.2
	Turpentine	12.6	31.9
	Drier	.7	1.7
Per cent pigment in non-volatile portion		78.4	33.4
No. 3d (Finish Coat, Re-painting and New Wood)	White-lead	70.6	24.8
	Linseed Oil	27.1	68.9
	Turpentine	1.6	4.3
	Drier	.7	2.0
Per cent pigment in non-volatile portion		72.3	26.5
No. 1d (Priming Coat, New Wood)	White-lead	60.8	17.3
	Linseed Oil	27.4	56.4
	Turpentine	11.2	24.9
	Drier	.6	1.4
Per cent pigment in non-volatile portion		69.0	23.5
No. 2d (Second Coat, New Wood)	White-lead	72.1	25.9
	Linseed Oil	16.7	43.1
	Turpentine	10.4	29.0
	Drier	.8	2.0
Per cent pigment in non-volatile portion		81.2	37.5

C—Painting Contract Form

For all ordinary jobs of exterior and interior painting the following contract between painter and property-owner will fill requirements:

(Date).....

We agree to paint the property located at (Address).....

.....and owned by

(Name of owner).....
doing the work listed herein in accordance with the following specifications:

1. Paint is to be applied only when the surface is thoroughly dry.
2. All surfaces shall be clean, smooth and free from dust, dirt, grease, mortar, loose paint, scale, etc.
3. All paint shall be evenly spread and thoroughly brushed out.
4. On new work, after priming, knots and sappy streaks shall be shellacked with one coat brushed out thin.
5. All exterior work shall be allowed to dry from two to four days before the next coat is applied and for interior work at least twenty-four hours for each coat.
6. All nail holes, dents, cracks, joints or other defects in the surface shall be puttied after the priming coat has been applied and is thoroughly dry.
7. Before any paint is applied, plaster surfaces, either new or old, must be made clean and smooth and all cracks and holes filled with patching plaster.
8. Walls that have been calcimined shall be washed until all calcimine is removed before applying any paint.
9. All new plaster, stucco or concrete shall be aged before painting by washing with a solution made by dissolving two pounds of zinc sulphate in one gallon of water.
10. All paints and paint products used shall be Dutch Boy.
11. All material and tools to be furnished by the painting contractor.

(Here list and specify in detail all work to be done.)

Price for all work specified above $.....

Terms of payment:

After first coat is applied $.....

On completion of job $.....

(Signed) .....
(Signature of Contracting Painter)

Accepted .....
(Signature of Owner of Property)

Bright... Glossy... Quick-Drying

SASH & TRIM COLORS

Blended to Stay Bright

Bright! "Dutch Boy" Sash & Trim Colors are specially "blended" to trim up a job so it not only *looks* bright but *stays* bright!

Beauty-tight! Specially blended for extra color strength and for glassy, mirror-like gloss, they add a finishing touch that lasts. They work easily, cover well, set dust-free in 4 hours, dry smooth and hard.

Right! "Dutch Boy" Sash & Trim Colors are ideal for sash, shutters, doors, fences and store fronts. A real painters' product, they make any job stand *out* and stand *up!*

One Coat Really Covers . . .

"Dutch Boy"

Wonsover

"Dutch Boy" WONSOVER is a real one-coat interior paint . . . a real oil flat that offers you many real advantages.

WONSOVER for Hiding Power . . . It really covers like a blanket. Use it over any painted surface where flat paint is suitable, whether plaster, wallboard, wood, brick or concrete. Also does a professional job over water-reduced paints.

WONSOVER for Smoothness . . . It goes on with creamy smoothness . . . levels out nicely, spreads far and dries to a rich-looking, uniform, flat finish.

WONSOVER for Speed . . . It comes ready to apply . . . brush, roller or spray. Sets dust-free in a few hours. Dries overnight and leaves no unpleasant odor. Once over and the work's over with WONSOVER.

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